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NYASALAND PROTECTORATE

Annual Report of the Medical Department for the year 1951

SECTION I. ADMINISTRATION

A. Staff

1. Dr. P. W. Dill-Russell acted as Director of Medical Services from May 9th until October 28th during the absence on leave of Dr. D. J. M. Mackenzie.

2. Dr. C. S. Davies, L.R.C.P., M.R.C.S., D.P.H., Assistant Director of Medical Services (Health) went on leave, pending retirement, at the end of December.

3. Dr. R. B. Baird, M.B., M.R.C.P., Pathologist (Specialist grade) arrived in the Protectorate during February, on transfer from Uganda.

4. Dr. J. W. D. Goodall, M.D., F.R.C.P., was appointed Medical Specialist and assumed duty during March.

5. Mr. E. J. Kirwan, M.Ch., Special Grade Medical Officer, acted as Surgical Specialist during the absence on leave of Mr. M. A. W. Roberts, F.R.C.S.I.

6. The establishment of Medical Officers was six below strength throughout the year and no first appointments were made during 1951.

7. Mr. M. J. Havenga, B.D.S. (Rand), acted as *locum tenens* Dental Surgeon for two months of the period that Mr. F. S. Fawcett, L.D.S., was on leave.

8. Dr. W. H. Watson, M.D., was appointed on agreement during December, 1950, as Medical Officer in charge of the Mental Hospital and assumed duty at the beginning of January.

9. Miss E. S. King, S.R.N., S.C.M., arrived in February on promotion from Uganda to take up duty as Principal Matron.

10. Five Nursing Sisters arrived on first appointment and five Nursing Sisters resigned and left the Service. Two of these resignations were on account of marriage. One Nursing Sister, Mrs. E. C. Charteris, went on leave, pending retirement, on the 31st December after eleven years of service in the Protectorate.

11. Mr. F. L. Charteris, M.R.S.I., I.M. & F. (R.S.I.) M.T.A., Chief Health Inspector, proceeded on leave, pending retirement, on the 31st December. Mr. Charteris had had 18 years' service with the Government of Nyasaland.

12. Mr. J. R. Daly, Dental Mechanic, left the Service on completion of his contract. Mr. O. P. Derry assumed duty as Dental Mechanic during November.

13. Mr. L. Gaskin assumed duty during April, on agreement, as Assistant Medical Storekeeper.

14. Mr. H. D. G. Coffin arrived in the Territory during September, on secondment from S.E.L.R.A. Bura, as Leprosy Settlement Supervisor.

15. Mr. A. T. K. Mkisi, Senior Hospital Assistant in charge of the hospital at Fort Manning, was awarded a Certificate of Honour for work of outstanding merit during his service. The presentation was made on the King's Birthday.

Post Graduate Courses

16. Dr. W. A. Glynn, M.R.C.S., L.R.C.P., Senior Medical Officer, obtained the Diploma in Public Health of Liverpool University.

17. Dr. J. M. Sword, M.B., Ch.B., obtained the Diploma in Tropical Medicine and Hygiene of the University of London.

18. Dr. R. Park, B.A., M.R.C.S., L.R.C.P., D.T.M. & H., passed the examination for the Certificate of Public Health at Edinburgh University and is proceeding with the second part of the course for the Diploma.

19. Dr. E. Robinson, M.B., Ch.B., has been accepted for the course in Tuberculous Diseases at the University of Wales and has passed the preliminary examination.

20. Dr. J. L. Hardman, M.R.C.S., L.R.C.P., attended a course in malariology in Tanganyika Territory by courtesy of Dr. Bagster Wilson of the East African Malaria Research Unit.

21. Mr. G. K. Joshi, L.C.P.S. (Bombay), Senior Sub-Assistant Surgeon, attended a post-graduate course in surgery at Edinburgh.

Promotions

22. *Hospital Assistants.* Mr. E. D. Sisya, in charge of the hospital at Chiradzulu, Mr. B. Kulemeka, in charge of the hospital at Kasungu, and Mr. P. Kamanje, Senior African Laboratory Assistant, were promoted to Class 'I' posts. Six other Hospital Assistants obtained promotion to higher grades.

23. *Medical Aides.* Sixteen Medical Aides received promotion.

24. *Sanitary Assistants.* Mr. M. Chemboga, the principal African instructor to the Sanitary Assistants' School, was advanced to a Class 'I' post. Four other Sanitary Assistants obtained accelerated promotion. Thirteen junior Sanitary Assistants were successful in trade tests following refresher courses and obtained advancement beyond the preliminary grade.

B. Ordinances, etc.

25. *Ordinances*

(*a*) The Midwives (Amendment) Ordinance, 1951. This Ordinance gives the Secretary authority to remove from the Midwives Roll the name of any midwife who dies or who is believed to have left the Protectorate without the intention of returning.

26. *Government Notices*

(*a*) Government Notice No. 40 revises the Port Herald Sanitary Board (Sanitary Services) Rules, and increases the fee payable for sanitary services.

(*b*) Government Notice No. 103 appoints Mr. K. O. Shelford to be a member of the Advisory Board of Health.

(*c*) Government Notice No. 110 revises the Midwives Rules 1947, and makes provision for a course of training in midwifery in the English language for African women who possess a standard VI educational qualification.

(*d*) Government Notices Nos. 140 and 141 define the boundaries and appoint a Sanitary Board for the Mponela Sanitary Area.

(*e*) Government Notice No. 182 proclaims the requirements and conditions for the purpose of preventing the entry of yellow fever into the Protectorate. The Schedules to this Proclamation name the authorized aerodromes in the Protectorate and re-define the endemic area in Africa.

(*f*) Government Notice No. 192 sets out the Bye-laws for Blantyre European Public Cemetery.

(*g*) Government Notice No. 200 nominates the members of Dowa Sanitary Board.

(*h*) Government Notice No. 206 names the authorized cemeteries for the Blantyre Township.

(*i*) Government Notice No. 207 defines the boundaries of Blantyre European Public Cemetery.

(*j*) Government Notice No. 217 declares the area within a radius of ten miles of Nsaru Native Tobacco Board Market as an area infected with rabies under Regulation 18 of the Control of Dogs Ordinances, 1949 and 1950.

(*k*) Government Notices Nos. 225 and 226 determine the membership and nominate members for the Namadzi Trading Centre Sanitary Board.

C. VISITORS

27. The Panel of Medical Visitors of the Nuffield Foundation was represented by Professor Alan Moncrief, Professor T. H. Davey and Dr. G. L. M. McElligott. These visits of doctors, eminent in their specialties in the United Kingdom, are of great benefit to the profession in Nyasaland. The expert advice and the personal contacts are widely appreciated in a Territory where these amenities are so conspicuously lacking. This lack is accepted as being inherent in practice in the Colonies and therefore the stimulus provided by the generosity of the Foundation is doubly welcome.

28. Professor Alan Moncrief, M.D., F.R.C.P., Professor of Child Health of the University of London spent five days in the Protectorate during which time he was able to visit Blantyre, Chiradzulu, Zomba, Domasi and Lilongwe.

29. Professor T. H. Davey, O.B.E., M.D., D.T.M., Professor of Tropical Hygiene at the University of Liverpool visited Lilongwe, Kota Kota, Zomba and Blantyre. He inspected hospitals, training schools and the Jeanes School at Domasi. In Blantyre he addressed a meeting of the Nyasaland Branch of the B.M.A.

30. Dr. G. L. M. McElligott, M.A., M.R.C.S., L.R.C.P., Director of the Venereal Diseases Department of St. Mary's Hospital and Adviser in Venereal Diseases to the Ministry of Health, arrived in Blantyre by air on the 17th September and spent ten days touring the Protectorate, leaving by road for Tanganyika Territory. Dr. McElligott, who is a Member of the Expert Committee on Venereal Diseases of the World Health Organization, is particularly interested in the incidence amongst Africans of non-venereal syphilis akin to the bejel of Arabia.

31. Miss Joan Vickers, M.B.E., spent ten days in the Protectorate on behalf of the British Empire Society for the Blind. As a result of this visit a representative committee, composed largely of non-officials, was set up with the object of establishing a Branch of the Society in Nyasaland.

D. Financial

32. The estimated expenditure of the Department during 1951, exclusive of that chargeable to the Colonial Development and Welfare Fund, was 9.28 per cent. of the estimated total ordinary expenditure of the Protectorate, and 6.77 per cent. of the estimated total expenditure.

33. The basis of administration of Colonial Development and Welfare Fund allocations to the Protectorate was altered with effect from the 1st January, 1951. The unexpended balance of the allocation to the Medical Department is now being used to assist the development expenditure of the Department rather than to meet expenditure on specific projects. The yearly allocations for the period 1951 to 1955 become a fixed percentage of the Department's actual annual expenditure in each of the five years, subject to an annual maximum of £35,000. The total estimated expenditure for the year, 1951, was £259,664 of which £91,000 was defined as expenditure on development. Of this latter amount 35 per cent. subject to a maximum of £35,000 is the grant to be made from Colonial Development and Welfare Funds. Under this system the main heads of development expenditure for 1951 were estimated to be:—

(1) General duty staff and adequate provision for transport and travelling	£23,500
(2) Provision of well equipped central curative units	34,000
(3) Training more African auxiliaries	4,500
(4) Re-organization of the leprosy service	5,500
(5) Modern Mental Hospital (equipment and increased recurrent costs)	17,500
(6) Smallpox control and insect vector control	6,000
TOTAL	£91,000

34. The total revenue of the Department amounted to £10,032–4s–4d as against £7,896–2s–1d collected during 1950. This does not include the revenue from the sale of anti-malarial drugs through Post Offices. Revenue was collected under the following Heads:—

	1950 £	s	d	1951 £	s	d
Hospital Fees	5,191	10	8	6,822	8	7
Sale of Stores	1,648	6	2	1,811	8	3
Pathological Fees	43	1	0	31	4	6
Radiological Fees	302	18	6	695	10	0
Dental Fees	642	10	1	606	3	0
Ambulance Fees	27	12	8	60	14	0
Yellow Fever Inoculation Fees	30	3	0	4	16	0
TOTAL	£7,886	2	1	£10,032	4	4

35. Sales of quinine, mepacrine and paludrine at Post Offices were as follows:—

	1950 £	s	d	1951 £	s	d
Quinine	1,345	10	0	1,341	4	7
Mepacrine	289	4	7	389	2	1
Paludrine	1,031	16	8	984	2	0
TOTAL	£2,666	11	3	£2,714	8	8

SECTION II. PUBLIC HEALTH

A. General Remarks

36. Whereas 1950 was planned to be a year of consolidation, 1951 was designed to be the the first year of the active phase of development. The approval of the revised Medical Development Plan submitted to the Secretary of State during 1950 was received early in the year. The main features of this development programme, which covers the period 1950 to 1955, are as follows:—

(i) the provision of more general duty staff with adequate facilities for transport and travelling which will ensure that existing curative establishments have the supervision necessary for maximum efficiency;

(ii) the provision of well equipped central curative units;

(iii) the training of more African auxiliaries;

(iv) the development of health units and the construction of a limited number of new dispensaries;

(v) the re-organization of the leprosy services on modern lines;

(vi) the provision of a modern mental hospital equipped to treat mental disease.

37. To a limited extent the aims of the first year were attained; the limiting factors were the inability to recruit general duty staff and a sharp financial recession which made itself felt during the third quarter of the year.

38. *Staff.* The posts of Medical Specialist, Pathologist and Principal Matron were filled early in the year. These appointments have done a great deal to stimulate the work of the central curative establishments and to strengthen the training of African auxiliaries. The appointment of a special grade Medical Officer (Surgeon) at the end of 1950 has amplified the surgical service, particularly in the field of orthopaedics.

39. In the general duty category however the circumstances are not so fortunate. Lack of general duty officers has handicapped the programme of regular supervision and guidance of the African auxiliaries in the field. Further, field surveys designed to provide data on which to base the planning of district development programmes have been virtually non-existent. Without more detailed knowledge of the priority that should be accorded to rural programmes of treatment and prevention little more than routine curative work can be accomplished.

40. *Transport and Travelling.* Supervision necessitates transport and travelling. It was planned to put six general purpose vehicles into service during the year. Each vehicle was designed to function as a field ambulance and a supply truck so that the hospital services could be used more efficiently and the rural dispensaries could be more adequately supplied. Further, more ambulances were necessary to serve the larger curative institutions. Here the financial recession came into play and orders placed for the six vehicles had to be cancelled. In addition, routine travelling had to be curtailed severely with the result that, during the last three months of the year, only emergency travelling could be undertaken.

Central Curative Units

41. By the beginning of 1951 the extensions to the Zomba African Hospital, comprising an expanded Out-patients' Department and a new Central Laboratory, were completed. The Out-patients' Department has been in operation throughout the year and the Central Laboratory was transferred to the new building during April. At Lilongwe African Hospital a new infectious diseases block of eight beds was opened early in the year. Provision had also been made in the Estimates to extend the European Hospital and to add an additional ward to the African Hospital. Unfortunately both projects proved to be beyond the building capacity of the Public Works Department and by the end of the year the work had not begun. At the Lilongwe African Hospital an X-ray unit has been installed and this now provides a service for the Central and Northern Provinces.

42. Work started during April on the planning of the Group Hospital to be sited between Blantyre and Limbe. This hospital will be the main general hospital for the Protectorate and the schedule of accommodation proides for 168 African beds, 34 European beds and 34 Asian beds. The specialist staff will be moved to Blantyre when the hospital is completed, so that their services will be available at the centre of communications. A training school for African Hospital Assistants will be on the same site.

43. A planning Committee consisting of the Director of Medical Services as Chairman, the Director of Public Works, the Government Architect, the Senior Surgical Specialist, the Medical Specialist and the Principal Matron was constituted by Government and the services of a Johannesburg firm of Consulting Architects who specialize in hospital construction was engaged. The Committee met seven times, and by the end of the year detailed schedules of accommodation had been worked out and submitted to the Consulting Architects for discussion prior to the preparation of site and sketch plans.

Training of more African Auxiliaries

44. In this connection the year, 1951, marked a notable advance. The Training School for Medical Aides at the Lilongwe African Hospital was completed during August and was opened by the Director of Medical Services on November 20th. There was no shortage of applicants with the Government Standard VI certificate for admission to the course which began with its full complement of 20 students.

45. A Wardmaster-Instructor was appointed and assumed duty some four months before the opening of the School; it was also possible to post a Nursing Sister to the African Hospital before the School work got under way. It can be said that this new Training Centre has made a good start and with a modicum of teething troubles. This was undoubtedly due to the untiring energy, enthusiasm and interest of those members of the medical and nursing staff at Lilongwe who were responsible for the inception of the work of the School.

46. At Zomba the building of the new Midwives Hostel was started and by the end of the year had reached roof level. The completion of this Hostel will do much to relieve the congestion of accommodation for African Staff in training.

47. A course of Midwifery training in English for African women of Standard VI education started during October.

Development of Health Units

48. Four Health Units have been built during the past three years but, owing to supply, staff and building difficulties, it has not been possible to put them all on a fully operational footing. The first unit to open with a full staff is that at Kaphuka which was opened by Mrs. Keppel-Compton on the 31st May, 1951. This unit is staffed by locally trained Africans, a Hospital Assistant being in charge assisted by one Medical Aide, one Midwife and one Sanitary Assistant. The work done during 1951 has been encouraging, special emphasis being laid on domiciliary work in neighbouring villages.

49. A second Health Unit at Salima is now completed and it is anticipated that a full staff will be available early in 1952.

50. The third and fourth Health Units are at Mitundu and Mwanza respectively and maintain only a dispensary service. Shortage of African Staff is the main factor in delaying the opening of these two units, although the delay in completing the necessary buildings has also contributed.

51. No new dispensaries were opened during the year. The main difficulty is lack of trained personnel, and until the lee-way has been made up it is necessary to resist requests for an increasing number of new dispensaries. An important factor however is the economics of building small units in widely separated and isolated areas. It is considered that this aspect can best be solved, once the staff shortage has eased, by forming small construction gangs who will work to a pre-arranged programme in the respective provinces.

52. Meantime the demand for increased services is being met to a limited extent by initiating a system of scheduled domiciliary visits from existing Rural Dispensaries. The working of this system will be discussed more fully in the relevant section of this Report.

Re-organization of the Leprosy Service

53. Following on a preliminary survey of the incidence of leprosy in Nyasaland, which was made during 1950, by Dr. J. Ross Innes, Government agreed in principle to the recommendations made in his report. Briefly, these were the establishment of a Central Government Leprosarium, the increased use of drugs of the sulphone series, and the development of out-patient facilities for the treatment of cases of leprosy of low infectivity.

54. During the year a suitable site for the Central Leprosarium was acquired in the Fort Manning District. This site of 2,500 acres was originally a tobacco estate which had reverted to the Crown in the early 1930's. It is as near the ideal for its purpose as could be expected in a densely populated country such as Nyasaland. Re-named *Kocira*—a Chinyanja synonym for "healing"—preliminary work started during May when an African foreman began brick making. The British Empire Leprosy Relief Association gave invaluable assistance and through the good offices of the Association a Lay Worker was seconded to the Department and arrived in the Protectorate in October. During the last quarter of the year a water supply was developed, the construction of certain staff houses begun and the sites for other houses and for storage accommodation were cleared.

55. Supplies of sulphones, adequate for the treatment of all cases of leprosy whose treatment could be supervised by a medical practitioner, were made available during the year. The out-patient treatment of lepers has been instituted on a small scale. This aspect of the programme of control will be further developed during 1952.

Mental Hospital

56. The building of the new mental hospital came to a stand-still at the beginning of 1951. This hospital is being built departmentally by the Public Works Department and the pressure of other work made it necessary to delay the work on the hospital for a full year. The work will be resumed early in 1952. The development of the service provided by the existing Asylum is referred to in an annexure to this Report.

Work of Societies, Boards and Committees

Advisory Board of Health

57. The Board met twice during the early months of the year and completed its survey of the sanitary services provided by the Blantyre and Limbe Town Councils. The Report of the Board on this survey was submitted to His Excellency the Governor on the 8th of May, 1951.

58. The very rapid growth of the two Townships, situated some five miles apart, has created a serious sanitary problem. The water supply provided by the Blantyre Water Board had been outstripped by the post war growth of the population of the Township and the drought of 1948–49 brought into startling relief the precarious nature of the water resources. In Limbe the town's water supply was derived from shallow wells and boreholes in an area of geological shatter. Sanitation in both Townships was in the main primitive and facilities totally inadequate. The system of pail latrines in vogue was imperfectly serviced and where water was available large numbers of septic tank installations were being installed without adequate provision in the size of the plots for the absorption of effluents. The surface pollution is accordingly high and the surface water during the rains drains to the rivers traversing the townships. These rivers form the main ablution areas for the African population and possibly the water supply for certain domestic purposes.

59. A Shadow Water Board for the two Townships had been constituted during 1950 and Consulting Engineers were engaged to prepare a water scheme. The first stage of this scheme, now in course of construction, will be completed in July 1953 and therefore it was vitally important to start planning the system of sanitation that must inevitably follow the development of a reticulated water supply.

60. After a full survey of the situation in consultation with the Town Councils concerned the Board recommended to Government as a matter of great urgency that sewage schemes should be prepared to serve initially the central congested areas of the two Townships and the residential area which had sprung up adjacent to the Water Board catchment area. It was further recommended that the health services of the two Townships should be fused and as a preliminary the sanitary bye-laws of the two towns should be revised and brought into line. The urgency of the inclusion of sanitary services within the schemes of development of African urban housing was stressed.

61. The report is under active consideration by Government and preliminary work on the zoning of services has begun.

Central Labour Advisory Board

62. Senior officers of the Department attended three meetings of the Board during the year. The most important business transacted was the consideration of draft Bills dealing with African Employment and African Migrant Workers.

Midwives Board

63. Three meetings of the Board were held during the year. A notable event was the completion of a Midwifery text-book in Chinyanja by Dr. Gwen Dabb of the Church of Scotland Mission in Blantyre. The illustrations were drawn by Mrs. Percival of Cholo. Both these ladies are members of the Board and their work in this connection will be of the greatest benefit to the Training Schools now in existence in Nyasaland and to the African Midwives and student Midwives of the Protectorate. The text-book will be available early in 1952.

64. The organization of Supervisory Authorities in the Territory continued throughout the year and there is now a supervisory body for each district in which African Midwives are in practice. The Board has adopted a standard list of equipment for these district Midwives which is considered to be efficient, within the means of the average midwife in practice and easily transported in a basket carried on the head.

65. During the year the Education Department advised that the output of African girls with a Standard VI education warranted the establishment of a course of training in the English medium. With this in view the Midwives Ordinance, 1946 and the Midwives Rules, 1947 were amended and a new syllabus of training adopted. In the first instance the course of training will be conducted at the Zomba African Hospital while the vernacular training will be continued at Mission Training Centres. This latter step is essential if the supply of district Midwives is to be built up to a level adequate to the needs of the community. Further, only married women are acceptable in the villages as midwives and it is difficult enough to get candidates literate in the vernacular for this purpose. The Standard VI girls who are mostly unmarried will be posted to the Government Hospitals when they have qualified, as there is not this prejudice to be overcome in the practice of institutional midwifery. The course for Standard VI girls started at the Zomba African Hospital in October, 1951.

Nyasaland Branch of the British Red Cross Society

66. The Branch continued to give invaluable support to the Mission and Government Hospitals in the Protectorate. The Divisional Work Parties maintained a steady supply of hospital requisites to the Missions engaged in medical work.

67. With the aid of the Society the list of blood donors was brought up to date and the system of calls re-organized. Particularly valuable work in this direction has been done amongst the African community.

68. Members of the Zomba Division started weekly afternoon sessions of occupational therapy at the Zomba African Hospital and this has proved to be a most successful and beneficial activity. Mat-

making and knitting have been very popular amongst the patients who have shown a keen and appreciative interest.

69. The Branch has maintained a supply of dried milk to hospitals and maternity and child welfare clinics. Gifts of refrigerators, Trilene Inhalers, baby scales, blankets and linen have been made to Mission hospitals. A " Red Cross Medical Loan Department " has been started in a small way and baby scales and an invalid chair have been purchased for this purpose.

70. The year marked an increase in the work of the African sections of the Branch which has been most encouraging. African First Aid and Home Nursing Detachments were formed in the Lilongwe and Zomba Divisions and Officers of the Department gave instruction to the Detachments. Great keenness has been shown by the Africans and the first examinations are to be held early in 1952.

71. This brief review only attempts to indicate the valuable work that is being done by the Nyasaland Branch of the Society and it is a pleasant duty to record appreciation of the great support received from the Society throughout the year.

Nyasaland Council of Women

72. The Council continued to show an active interest in the work of the Department. The Zomba Branch made a gift of a wireless set and six sets of earphones which were installed at the European Hospital, Zomba.

British Empire Society for the Blind

73. Miss Joan Vickers, M.B.E., visited Nyasaland on behalf of the Society during March, 1951. As a result of this visit a Nyasaland Committee of the British Empire Society for the Blind was formed which is representative of all sections of the community. Its terms of reference are to encourage action to prevent blindness; to bring education, employment and welfare to the blind and to assist the work of the Society in Nyasaland; to raise and administer any funds collected and to undertake such tasks in connection with work for the blind in Nyasaland as may be referred to the Committee by Government. The first meeting of the full Committee is due to be held early in 1952.

Trypanosomiasis Committee

74. The Committee met once during the year when a progress report on the Tsetse Fly Survey financed from Colonial Development and Welfare Funds was considered. In addition, the priorities for reclamation were reviewed and the utilization of land freed by reclamation schemes discussed.

B. Communicable Diseases

Smallpox

75. One hundred and twenty-two cases; 15 deaths. There was again a reduction in the total number of cases reported although in the Mlanje and Cholo Districts there was an increased incidence. One case occurred in the Northern Province, 13 cases in the Central Province and 108 cases in the Southern Province.

76. Comparative figures for the years, 1945 to 1951 are given below:—

	Cases	*Deaths*
1945	202 ..	2
1946	968 ..	36
1947	2,583 ..	189
1948	4,830 ..	606
1949	1,264 ..	239
1950	295 ..	53
1951	122 ..	15

77. In last year's Report mention was made of the problem of control in the Mlanje and Cholo Districts, due to the constant migration of labourers to and from Portuguese East Africa. Despite a systematic campaign of vaccination district by district there were 105 cases in the two districts as against 70 cases during 1950. The distribution of cases throughout the year was as follows, the figures in brackets being those for 1950.

	Mlanje	*Cholo*
January	8 (–) ..	— (5)
February	4 (–) ..	— (–)
March	8 (11) ..	1 (–)
April	3 (2) ..	1 (7)
May	– (1) ..	2 (–)
June	9 (1) ..	— (1)
July	9 (3) ..	6 (1)
August	8 (1) ..	— (1)
September	5 (4) ..	13 (4)
October	6 (8) ..	3 (1)
November	5 (12) ..	4 (3)
December	7 (4) ..	3 (–)

78. Mlanje District, which shows a relatively even spread of the cases throughout the year, is contiguous to Portuguese Mlanje and there is a steady influx of labour to the tea estates in Mlanje and Cholo from this region. There is also a correspondingly even flow in the opposite direction, not necessarily along the main lines of communication. Some 5,500 casual labourers and an unknown number of dependents are involved and administrative control is complex and difficult.

79. The production of calf lymp vaccine was resumed early in the year. After certain initial difficulties full scale production was attained by July and from that time onwards adequate supplies have been available to meet all needs within the Protectorate. A summary of the vaccinations performed and of the cases of small-pox occurring are set out in Table I. The total of vaccinations represents a considerable drop in numbers compared with previous years. This is due to the fact that a survey of the organization during the year had revealed that owing to lack of supervisory staff very considerable wastage was occurring and the services of numerous lay vaccinators were dispensed with. Systematic vaccination by the health staff on the permanent establishment is continuing; by this means it is believed that there will be increased efficiency and a regular programme of vaccination maintained.

Poliomyelitis

80. Despite a relatively high incidence in other African Territories in the region there were only seven cases reported in Nyasaland. All occurred sporadically, five amongst Africans and two amongst Europeans. There were no deaths.

Influenza

81. A total of 48 cases was included in the Infectious Diseases Returns from the hospital stations. A further 578 cases were reported from Rural Dispensaries, 240 of these from one district in the Southern Province. This is an unusually low incidence, not unexpected after the widespread epidemic of 1950.

Rabies

82. Again no human cases of rabies came to notice during the year. Anti-rabies vaccine was issued free for the treatment of humans who had been either bitten by or in close contact with rabid animals. The Director of Veterinary Services has reported that 15 proved cases of animal rabies occurred during the year, of which two were jackals from the Zomba District and one a donkey from the Central Province. One proved case in the Northern Province occurred in a dog transported from the outskirts of the Blantyre Township without a removal permit.

83. The Veterinary Department made available to dog owners in the Townships of Blantyre, Limbe and Zomba prophylactic inoculation, using vaccine from the Pasteur Institute in Algeria. Some 300 dogs were brought to be immunized, but this is only a small fraction of the domestic animal population and other methods of control are under active consideration.

84. Tie-up orders are in force in the whole of the Southern Province, with the exception of the Blantyre, Limbe and Zomba Townships, in respect of which areas orders were rescinded during the year. Orders also apply to three small areas in the Central Province.

85. Following on the report of the Expert Committee on Rabies of the W.H.O. the standards recommended for the treatment of humans in contact with rabid animals have been recommended for general use in the Protectorate, and Medical Officers advised accordingly.

Yellow Fever

86. As part of the W.H.O. investigation to delimit the southern boundary of the endemic yellow fever zone in Africa, a survey of human immunity to yellow fever was carried out in the Protectorate. The first part of the investigation took place during May and June when 1,046 specimens of human sera were collected and sent to the Virus Research Institute at Entebbe. Unfortunately some 700 of the sera were contaminated and this was proved to be due to contamination in one large batch of the venules used. This entailed the collection of a further 613 specimens during October. Altogether a total of 1,659 human sera has been obtained and the results of the mouse protection tests are awaited. No animal sera were obtained during this survey.

87. The inclusion of Tanganyika Territory in the yellow fever endemic zone entailed the introduction of legislation requiring passengers arriving by air from Dar-es-Salaam to be in possession of valid certificates of inoculation. Routine disinsectization of aircraft arriving from Tanganyika and Kenya was undertaken.

Measles

88. Epidemics occurred in a number of districts,—Port Herald, Fort Johnston, Dedza, Fort Manning, Mzimba and Chinteche reporting a relatively high incidence. A total of 2,391 cases was recorded, of which 570 attended hospital out-patient clinics. Ten cases of cancrum oris were treated in hospitals and Medical Officers attending these patients noted that one injection of penicillin appeared to halt the destructive processes in a remarkable fashion. Unfortunately the majority of the patients were brought for admission only after considerable tissue destruction had occurred.

89. Again the records reveal only those cases seen at hospitals or rural dispensaries and little is known of the true attack rate and mortality in the villages.

Relapsing Fever

90. There were 482 cases reported of whom four died. The distribution by provinces was:—

Northern Province	..	176 cases	Mzimba	..	169 cases
Central Province	..	237 „	Kasungu	..	80 „
			Ft. Manning	..	63 „
			Lilongwe	..	56 „
Southern Province	..	69 „	Cholo & Mlanje	..	60 „

91. Routine treatment of the Kasungu and Mzimba Bomas with gammexane was carried out during the year and the number of cases arising locally in these two centres, formerly heavily infested with *O. moubata*, has dropped very considerably. The incidence of cases obtaining in the villages remains high however; the great majority of the cases notified emanate from the rural areas.

Filariasis

92. The Medical Officer at Karonga started an investigation during December, 1950, into the incidence of micro filariae in the circulation of all patients admitted to the hospital. A thick blood film was taken at 10 p.m. and stained by Wenyon's method. All positive slides were sent to the Central Laboratory in Zomba for confirmation and classification. Between 30 per cent. and 50 per cent. of patients proved to have micro filariae in their blood, the higher rates of positivity appearing to be related to the wet season. All age groups were affected, most commonly the 30–40 years group and males more than females. The youngest patient yielding a positive blood was a child under two years of age. *W. bancrofti* was the predominant *filaria*, but a number of *perstans* infections were also noted. Certain specimens suggested a *loa loa* infection but this has not been confirmed; there was no clinical loasis seen.

93. The main incidence of elephantiasis in the Karonga District is in the northern section along the Songwe River where many cases are to be seen in the villages.

94. Owing to staff shortages and frequent changes of personnel it has not been possible to extend the investigation to other Lake-shore and Lower River Districts. When circumstances permit, however, this work will be put in hand.

Malaria

95. Cases attending at hospital out-patient departments numbered 35,175 of whom 4,808 were admitted to the wards; 79 deaths from malaria occurred in hospitals. At rural dispensaries there was a total of 57,658 attendances on account of malaria.

96. The total cases reported represents an increase of 17,496 cases over the 1950 figures. The whole of this increase is accounted for by the rural dispensaries and there was in fact a decrease in the number of cases recorded at hospital out-patient departments, although 665 more cases were treated in the wards.

97. At the rural dispensaries diagnosis is made purely on clinical grounds mainly by Medical Aides whereas at the hospitals the majority of the diagnoses are confirmed microscopically. On the other hand, rainfall was above the average for the Protectorate as a whole and there may well have been a true increase in the number of cases of malaria. Epidemic conditions did not arise in any district.

98. Certain permanent anti-malarial drainage works were continued in Zomba, Blantyre and Lilongwe Townships. The scope was necessarily restricted by the paucity of the funds available. Routine anti-larval operations were carried on at district stations, mainly in the highland areas. Control by the use of insecticides is being developed and the routine treatment of the intensely malarious stations in the Lower River started in 1950 was maintained. Shortage of staff and travelling facilities prevented any extension of this work.

99. The predominant parasite is *P. falciparum.* At the Central Laboratory the Pathologist investigated the types of infection in specimens submitted from the Zomba District. *P. falciparum* accounted for 75 per cent. of positives, *P. malariae* for between 10 per cent. and 20 per cent. and *P. vivax* for the rest.

100. It is of interest that Lamborn, in 1925, investigated the amount and kind of malaria amongst children possessed of all, or at least most of their temporary teeth. He found that during the late wet season of that year 25 out of 50 children in the S. Nyasa District of the Shire Valley had malaria parasites in their blood. Of these children, thirteen showed a quartan, five a sub-tertian, four a mixed and three an undetermined infeetion. In the late dry season 15 out of 34 were infected, 10 with quartan, three with mixed quartan and sub-tertian and two with undetermined parasites. During the period 1926 to 1939 Annual Reports have indicated that the proportion of quartan parasites in all Central Laboratory specimens has remained fairly constant between 21 per cent. and 23.4 per cent. The Medical Specialist has commented on the high incidence of nephritis in young African children seen at the Zomba African Hospital and it seems probable that there may be a direct relation to the number of quartan infections noted.

101. Sales of quinine, paludrine and mepacrine from the Post Offices remained at much the same level as those for the previous year. The figures given at paragraph 35 represent issues from the Medical Stores to the G.P.O. Expressed as tablets issued the figures are—Quinine 591,300, Mepacrine 232,000 and Paludrine 711,000.

Bilharziasis

102. From the hospitals and rural dispensaries a total of 21,662 cases was recorded. Of these 10,086 cases were seen as hospital out-patients and 1,055 were admitted to hospital. There were six deaths, four from urinary and two from intestinal bilharziasis. The comparative figures for the period 1945 to 1951 are as follows:—

	Total Out-patients attending	*Bilharziasis*		*Deaths recorded*
		Out-patient	*In-patient*	
1945	200,671 ..	4,691	1,092 ..	2
1946	232,582 ..	5,079	— ..	—
1947	277,836 ..	6,786	1,177 ..	2
1948	283,145 ..	7,566	1,302 ..	3
*1949	341,749 ..	9,959	995 ..	4
1950	374,172 ..	8,232	984 ..	2
1951	379,541 ..	10,086	1,055 ..	6

In 1949 these attendances were included.

103. The enormity of the problem, which is common to all territories in Africa in which bilharziasis is endemic, has concentrated the attention of all interests concerned with the problems of control. The Director of Medical Services attended an informal meeting on bilharziasis held at Pretoria, South Africa, during March, convened by the South African Council for Scientific and Industrial Research. The meeting was held at the end of a survey by Dr. J. H. Barlow of the Union's bilharzia problem. All aspects of the control and treatment of the disease were discussed and much valuable information on the work being done in Southern Africa was communicated to the meeting. The emphasis in the discussions was laid on the attack on the snail and the need for a more detailed knowledge of snail systematics.

* Previous to 1949, rural dispensaries attendances were not included in the out-patients total.

104. No work of major importance was possible in Nyasaland during 1951. At Kota Kota the work on drainage in connection with the pilot experiment was continued, but received a set-back due to damage to the channels by severe scouring during the rains. The damage was repaired during the dry season and results had been satisfactory up to the end of the year.

105. Professor T. H. Davey gave much useful advice on the further prosecution of the work during his visit to Kota Kota.

Ancylostomiasis

106. 8,603 cases were treated as hospital out-patients and, of these, 1,959 were admitted to hospital; nine deaths in hospital from this cause were reported. A further 10,008 cases were reported from rural dispensaries, the territorial total being 18,611.

107. Active measures are being taken, district by district, to ensure that there is an adequate provision of pit latrines in the villages. Although there has been a great deal of apathy amongst the Native Authorities in the past there is evidence that an increasing number of these Authorities are taking a greater interest in sanitation and are enforcing Native Authority Rules which require the construction of latrines. The integration of these efforts is being unfortunately delayed by the staff shortages which entail frequent changes of personnel in the districts. Until it is possible to ensure that Medical Officers in supervisory charge of districts can be left undisturbed throughout at least one tour, little consolidation of effort can be expected.

Trypanosomiasis

108. One case only was reported and that occurred in the Chikwawa District of the Lower Shire River. The patient was an adult male and the diagnosis was confirmed in the Central Laboratory. The man concerned lived adjacent to the fly belt running along the western bank of the Mwanza River. In this area there exist conditions tending to promote a continuing high rate of contact between man and fly, namely a thin but not negligible population cultivating gardens fringing the river and hunting and collecting firewood and building poles in the neighbouring thin forest. There is also a number of abandoned gardens in which bush has regenerated, favouring maintenance of a fly population. The tsetse fly is *G. morsitans*.

109. A meeting of the Tsetse Fly and Trypanosomiasis Committee was held in June when the the progress of the Tsetse Fly Survey of the Protectorate was reviewed. This Survey is proceeding district by district but until the whole Survey is completed and the results correlated it is not possible to obtain a clear picture of the distribution of the vector in relation to human sleeping sickness.

Leprosy

110. There was an increase of 144 in the daily average of patients resident in leper settlements at the end of 1950. Of these 116 were in settlements where treatment with sulphones is being given. Of the total of 1,321 in-patients remaining in the settlements at the end of 1951, 551 were receiving treatment with sulphones or thiacetazone. The number of new out-patients under treatment at Mission Settlements was 142, an increase of 35 over 1950.

111. At Government Hospitals a total of 415 lepers was under treatment as out-patients; of these 67 were admitted to isolation wards for periods of in-patient treatment. At rural dispensaries 479 cases of leprosy were diagnosed, 242 of these in the Mlanje District where there is a Native Authority Leper Village. This village is visited at intervals by the Medical Officer of the district, but its situation makes regular and effective supervision impossible.

112. The above figures underline the enormity of the problem facing Nyasaland in that less than 2 per cent. of the estimated leper population is under active treatment which, it is believed, will terminate infectivity and arrest the disease. However a start has been made and, with accumulating experience of the application of work done elsewhere to local conditions in Nyasaland, the scope of out-patient treatment should expand rapidly within the limits of the quantity of drugs that can be made available.

113. During the year an application was made to the Secretary of State for funds from the Central African Colonial Development and Welfare Fund Regional Allocation for Research to carry out further field research in Northern Rhodesia and Nyasaland on the epidemiology of leprosy. This project, arising from the Ross Innes Survey, is designed to elucidate the distribution of leprosy, the social and other factors underlying this distribution and the possibility of developing an attack against the disease through the medium of the Native Authorities.

114. The Director of the Leper Colony at the Malamulo Mission of the Seventh Day Adventists at Cholo has made a report on the impressions of his first full year of the treatment of lepers with sulphones. He reports a marked improvement in the general well being in the colony with a disappearance of the majority of severe ulcers and large nodules previously seen amongst the patients. A few exfoliative reactions occurred, but the most serious toxic manifestations encountered were mental disturbances. He expresses a personal opinion that the lepromatous cases show the slowest response to the sulphones.

115. The number of amputations necessary amongst patients in the Colony has now dropped to almost nil. It is noted that ulcers clear up to a certain stage under sulphones and that three mega units of penicillin given over ten days at this stage of healing produces a marked improvement.

116. The Boots Pure Drug Co. of Nottingham gave a generous supply of thiacetazone for clinical trials, but it had been in use for too short a period to allow of any conclusions to be drawn as to its efficacy.

117. The Church of Scotland Mission in the Northern Province closed down their settlement at Bandawe and moved the lepers to their settlement at Loudon. A capital grant was made from the Native Development and Welfare Fund towards the cost of providing increased accommodation at Loudon and the responsible Native Authority made more land available for this purpose. The doctor in charge reports that the results of sulphone treatment have been generally good and that no serious reactions have been encountered. During the year 26 patients were discharged.

118. Table II below sets out the details of in-patients treated in Mission leper settlements subsidized by Government.

TABLE II

Settlement	In settlement beginning of 1951.	Admitted or re-admitted during 1951.	Discharged or paroled during 1951.	Absconded during 1951.	Died during 1951	In settlement at end of 1951.	Daily average in settlement.	New Out-patients
Bandawe (Church of Scotland)	23	—	21	—	2	—		—
Loudon (Church of Scotland)	31	49	24	13	—	43	46	—
Likwenu (Universities Mission to Central Africa) ..	50	13	9	—	—	54	53	64
Malamulo (Seventh Day Adventists)	260	213	38	58	13	364	313	62
Mua (White Fathers)	264	134	90	—	12	296	275	9
Mwami (Seventh Day Adventists)	73	69	45	4	3	90	81	—
Utale (Marist Fathers)	455	209	160	45	9	450	446	7
Nsadzu (Dutch Reformed Church Mission) ..	15	11	2	—	—	24	18	—
TOTAL ..	1,171	698	389	120	39	1,321	1,232	142

Tuberculosis

119. A total of 368 cases was notified of which 264 were pulmonary. Of this total 323 were admitted to hospital.

120. In connection with a health survey undertaken in the Domasi Development Area tuberculin testing of 1,077 persons was effected. A full account of the survey is given later in this Report but the following sensitivity rates, using O.T. 1/4,000 for the Mantoux Test are included here.

Age Groups	0—1	1—5	5—18	*Over* 18
Per cent positive reactors ..	10% ..	19% ..	33% ..	70%

121. At the Zomba African Hospital the Medical Specialist tuberculin tested 111 volunteers from amongst the hospital staff and students at the Training School. 0.1 ml. of 1:4,000 O.T. was used and results read at the end of 48 hours. Positive reactors constituted 56 per cent. of the total of which eleven persons showed hypersensitivity. Further details are given in the Medical Specialist's Report at Annexure A.

122. At this stage little useful comment can be made on the development of facilities for the diagnosis and treatment of tuberculosis. A comprehensive tuberculosis service is far beyond the financial resources of the Protectorate and the immediate programme of work must be the accumulation of more detailed information and the provision of diagnostic and treatment facilities as a part of the general hospital service. At the present time one Medical Officer is undergoing specialist training in Tuberculous Diseases at Cardiff and when he returns to duty he will be posted to the Domasi Development Area in order to follow up the preliminary investigation undertaken in 1951. The collection of more ample data can then form the basis for a planned programme of advance using such weapons as may be to hand. In the promising field of chemotherapy developments tend to suggest that the production of an easily handled and cheap means of arresting infectivity may not be long delayed.

123. One case of tuberculosis amongst bovines was reported during the year.

Venereal Diseases

124. Under Scheme D505 the issue of free drugs for the treatment of venereal diseases was continued. Table III below sets out the numbers of cases treated since the inception of the scheme in 1945. As the grant covered a period of eight years, 1952 will be the last year of the scheme.

TABLE III

	Out-patients treated at Govt. Hospitals and Dispensaries	*Cases treated at non-Govt. Hospitals and Dispensaries*	*Total*
1945	5,671	Not known	5,671
1946	10,011	639	10,650
1947	17,978	1,906	19,884
1948	16,899	1,278	18,177
1949	19,580	2,670	22,250
1950	22,570	3,029	25,599
1951	23,736	4,917	28,653

125. The total of 28,653 cases in 1951 is made up of 22,737 cases of syphilis, 5,785 of gonorrhoea and 131 cases of other venereal diseases. Records from Government hospitals reveal that there were 9,821 male and 8,673 female cases of syphilis. The figures for gonorrhoea are 3,411 and 1,831 respectively.

126. The stages of syphilis recorded are of interest in that a high proportion of cases are seen in the primary and secondary stages. This is apparently no new feature in Nyasaland as witness the comparisons made in Table IV.

TABLE IV

Syphilis diagnosed at Hospital Out-patient Departments 1926, 1932, 1951.

	1926		1932		1951	
	M.	*F.*	*M.*	*F.*	*M.*	*F.*
Primary Syphilis	67	51	153	74	1,529	825
Secondary ,, ...	42	31	128	81	1,870	1,510
Tertiary ,, ...	10	1	100	61	197	137
Congenital ,, ...	5	2	64	68	209	222
Undefined ,, ...	—	—	124	92	518	395
TOTAL Out-patients attending for all causes	27,212	13,985	61,916	29,771	259,443	120,098

127. Past experience in Southern Africa suggests that syphilis in Africans is seen infrequently in the primary stage, even in the male; it is seen more commonly in the secondary stage and most commonly in the tertiary stage. An index of the effectiveness of propaganda has been a significant increase in the number of cases in the primary and secondary stages presenting themselves for treatment.

128. In Nyasaland it seems that the majority of infected persons present themselves for treatment at a stage when syphilis is curable, particularly with present day therapy. It can be argued, however, that these figures are misleading in that the syphilis returns are heavily loaded by the inclusion of misdiagnosed yaws. This may be so as far as secondary syphilis is concerned but it will hardly apply to primary syphilis. Again it may be contended that the diagnosis of primary syphilis is at fault; this may be so in the female but is less likely in the male. On the other hand the returns from the Zomba African Hospital which is adjacent to the Central Laboratory, show the same high proportion of primary and secondary syphilis relative to the tertiary stage.

129. If this is indeed true, and much work is required to confirm the thesis, then the prospects of controlling syphilis by penicillin therapy seem bright. Unfortunately the cost of drugs alone, quite apart from staff and equipment, make it impossible to consider a Protectorate wide campaign at the present stage of economic development.

130. As a postscript, the serological findings of a small sample of 752 persons investigated at Domasi, using the Kahn Test, showed that 6.5 per cent. gave a three or four plus reaction; all positives accounted for 35.5 per cent. of the sample. If it is accepted that a three or four plus reaction indicates probable syphilis or yaws, then the percentage positive is low for a rural African community. If, however, all positives are included then the level of 35.5 per cent. is within the average for such a community.

131. The number of cases of gonorrhoea attending showed an increase of 1,481 over the 1950 figure. The total of other venereal diseases recorded dropped sharply to 131, all reported from Mission Hospitals and dispensaries; 106 of these cases were seen at the one Mission where there is no doctor on the establishment.

Yaws

132. The total attendances amounted to 3,085, an increase of 307 cases over the 1950 figure. Of this total 273 males and 276 females were seen at hospital out-patient departments and 1,198 males and 1,338 females at rural dispensaries. 118 cases were treated in hospital.

133. Karonga, Dowa and Port Herald reported the highest incidence, recording 1,644, 591 and 245 cases respectively. It will be seen that more than half of the cases attending did so in the Karonga District. The Medical Officer in charge of the district during 1951 reports that there is an endemic focus at Ngerenge Village, ten miles north of Karonga on the Lufira River. There are indications that the disease may be increasing in this area and steps are being taken to investigate the situation and to deal with it.

C. General Diseases

Deficiency Diseases

134. Again deficiency diseases accounted for a very small percentage of the total attendances at hospitals and rural dispensaries. 117 cases were reported of which 96 were diagnosed as suffering from pellagra; four cases of rickets, four of scurvy and thirteen of beri-beri were recorded. The majority of the cases of pellagra (31) occurred in the Fort Johnston District; next in order of frequency was the Blantyre African Hospital where 19 cases, all in males, were treated.

135. Comment has been made in previous years on the paucity of cases of frank malnutrition or of major signs of deficiency arising from defective diets. No true picture of the incidence of deficiency diseases can be obtained as the vast majority of patients presenting the sitgmata of minor deficiencies

attend for the treatment of some other condition, usually a worm infestation. On the whole, during average years, the production of subsistence crops ensures at least a full belly, if not a balanced diet, with the possibility of a falling off of condition during the hunger period prior to the onset of the rains.

Diseases of the Skin and Cellular Tissues

136. There were 252,904 attendances at hospitals and rural dispensaries on account of this group of diseases, which total constitutes just over 23 per cent. of attendances for all causes. Of this 11.7 per cent. is recorded as being due to " ulcer ".

137. The ulcer group totalled 124,105 attendances of which 87,243 were by males and 36,862 by females. The percentage of attendances due to ulcer corresponds very closely to that of the previous year. There is evidence that the need for early treatment of wounds and abrasions is being appreciated more widely by the large employers of labour, with a resultant fall in the incidence of tropical ulcer. This represents only a relatively small proportion of the population affected, however, and the main effort in the campaign of prevention must be through propaganda disseminated during domiciliary visits to the villages.

Diseases of the Digestive System

138. The total attendances at hospitals and rural dispensaries amounted to 169,677. Hospital out-patient figures account for 51,098 of this total, 18.4 per cent. being due to dental caries, 22.2 per cent to dyspepsia, 13.5 per cent. to diarrhoea and 33.04 per cent., to constipation. That these conditions were in the main minor complaints is shown by the fact that only 2.7 per cent. were admitted to hospital. The commonest causes of admission were diarrhoea and enteritis, inguinal hernia and tonsillitis; amongst the males inguinal hernia gave the highest admission rate and amongst the females, diarrhoea and enteritis.

Diseases of the Respiratory System

139. Total attendances numbered 166,845 of which 53,981 attended at hospital out-patient departments. Of this latter group 47.4 per cent was due to acute bronchitis, 19.0 per cent. to coryza and 3.2 per cent. to pneumonia.

140. The overall death rate in hospitals from pneumonia was 7.4 per cent. The highest rate recorded in a district hospital was 9.2 per cent. In this district there was a sharp local epidemic of influenza and the majority of patients were admitted late in the disease in a seriously ill condition. It is of interest that at the Zomba African Hospital, where the facilities are available for precise diagnosis and a specialist opinion can be obtained, the death rate was 8.7 per cent.; broncho-pneumonia gave a 7.7 per cent. death rate and lobar penumonia 9.1 per cent. Deaths appear to have been fairly evenly distributed over all age groups and the operative factor is the stage of the disease when the patient is admitted to hospital. Provided that the patient lives long enough to obtain full doses of the antibiotics over a period of 24–48 hours many cases make a dramatic recovery.

Diseases of the Eye

141. 84,191 persons attended at hospital out-patient departments and rural dispensaries for treatment of eye diseases; of these 24,625 attended hospital out-patient departments where 22,284 attendances were on account of conjunctivitis, 325 for corneal ulcer and 44 for trachoma.

142. The School for the Blind at Lulwe in the Port Herald District received a capital grant of £3,000 from the Native Development and Welfare Fund to build quarters for additional Mission teaching Staff, to build a dispensary, to provide transport and to construct an access road from the railway siding serving Lulwe. This work will begin as soon as possible after the start of the 1952 dry season.

143. As mentioned earlier in this Report, a Nyasaland Committee of the British Empire Society for the Blind has been formed with the object of sponsoring education designed to prevent eye disease and to further the practical training of the educable blind.

Injuries, Accidents, etc.

144. The territorial total of 149,568 attendances includes 63,034 attendances at hospital out-patient departments; of this latter total 25,170 were due to wounds, 9,531 injuries due to falls and 22,592 due to other forms of accidental violence.

D. Hospitals and Dispensaries

145. During the year 1,052,650 persons of all races attended at Government hospital out-patient departments and rural dispensaries. Of this total 31,212 were admitted to Government hospitals; there were 701 in-patient deaths.

146. The progressive increase in the volume of work undertaken is well illustrated in Table V below.

TABLE V

Patients treated at Government Hospitals Out-patient Departments and rural Dispensaries.

1947–1951

Year	Out-patient				In-patient		
	Rural Dispensaries	African Hospitals	European Hospitals	Total	European Hospitals	African Hospitals	Total
1947 ..	539,092	277,836	3,036	819,964	679	28,366	29,045
1948 ..	571,302	283,145	2,880	857,327	651	29,459	30,110
1949 ..	608,520	341,749	3,611	953,880	740	*26,693	27,433
1950 ..	625,356	371,162	4,374	1,005,902	984	30,173	31,157
1951 ..	672,517	379,541	4,592	1,052,650	1,094	30,118	31,212
Per cent. increase five-year period	24.75%	36.6%	51.25%	28.37%	61.11%	6.17%	7.46%

* During 1949 it was necessary to limit the admission of certain categories of patients to hospital owing to the food shortage following on the drought of 1948–49.

147. The increase in the volume of work at the European Hospitals corresponds closely to the increase in that section of the population, namely a 57 per cent. increase over the five-year period. The African population increased by 7.6 per cent. over the same period. These calculations are based on population estimates, as the last census was compiled in 1945.

Hospitals

148. A total of 34 beds is available in the Government European Hospitals and the daily average number of in-patients was 21.36 as compared with 19.21 during 1950. The in-patient and out-patient figures are shown in Table V above.

149. There are 1,115 beds in African Government Hospitals and the daily average in-patient state was 1,072.54. This shows a drop on the average recorded for 1950 so that there has obviously been a shorter average duration of stay resulting in the increased turnover of 6.17 per cent.

150. No major construction works were undertaken at any of the hospitals during the year, apart from the completion of the extensions to the Zomba African Hospital. At Mlanje Hospital, the provision of a piped water supply has allowed of the installation of ablutions and of water-borne sanitation in the male and female wards.

Health Units and Rural Dispensaries

151. The Kaphuka Health Unit was opened on the 31st May by the wife of the Provincial Commissioner, Mrs. Keppel-Compton. It is the first of the four Units under construction to be opened on a fully operational basis. The staff, all Africans, who have been trained in the Protectorate, consists of a Hospital Assistant in charge, a Medical Aide, a Midwife and a Sanitary Assistant. The buildings consist of a dispensary, a maternity ward of ~~four~~ six beds, a labour ward, a rest house for patients who have to remain at the centre for treatment, and staff quarters. The patients arrange for their own feeding during their stay at the centre and treatment is provided free.

152. The function of the Health Unit is to provide a curative centre for those ailments not requiring treatment in hospital while spreading knowledge of the prevention of the common endemic diseases through the medium of domiciliary visits to the surrounding villages. Talks are given on health subjects during these visits and the Sanitary Assistant is available to give practical advice and instruction on environmental sanitation.

153. At the Health Unit 10,491 first attendances and 11,821 subsequent attendances were recorded, a daily average of 60.63 patients. At the maternity clinic there were 427 first attendances and 1,116 subsequent attendances; 98 women were admitted to the maternity ward of which 85 had normal deliveries. Abnormal or difficult cases are sent to the District Hospital at Dedza.

154. During domiciliary visits 2,594 patients were seen in the surrounding villages and attendances at health talks amounted to 6,319. Of this latter total 2,581 were males, which is an unexpectedly large number, indicating an interest that it is hoped will survive the novelty.

155. Delays in the completion of buildings have postponed the opening of the other three centres, but it is planned to open the two Health Units at Salima and Mwanza respectively during 1953.

Rural Dispensaries

156. A great deal of work is required to be done to overtake the tremendous backlog of maintenance work necessary at the Rural Dispensaries. Post war development has necessarily committed the building and maintenance capacity of the Public Works Department to a very heavy programme of work at the larger centres. Only such work as can be arranged by the Medical Officers, and undertaken by labour engaged locally, has been possible within the limited funds available.

157. During the first half of the year more adequate travelling provision enabled the officers in medical charge of districts to supervise the work at Rural Dispensaries more frequently than was possible throughout the war and the years immediately following. More Medical Aides have been brought in to hospital centres for further periods of work under supervision so that practical tuition can be continued. In the past, due to force of circumstances, many Medical Aides have been left in isolation with infrequent visits from senior officers for far too long and it is believed that more frequent spells of duty at the larger centres will improve the standard of treatment at rural dispensaries. Unfortunately the financial situation entailed a severe curtailment of travelling during the latter months of the year, and this has tended to halt the progress made.

158. To spread the rural service more effectively, from the end of the rains onwards the men in charge of rural dispensaries were given a schedule of visits to villages within a radius of not more than ten miles from their dispensaries. In this way approximately eight villages were visited from each centre at monthly intervals: the Medical Aides, travelling on their own bicycles, carry a small stock of drugs with them and a mileage allowance is paid to cover the cost of wear and tear on their bicycles. Health talks are given at each village on selected subjects, the subject matter being first approved by the Medical Officer concerned. The Medical Aides are required to keep a duplicate diary, a copy of which is sent in to their district H.Q. monthly. The records of work done have been far from complete but an encouraging record of the first year's work is that 142,188 attendances at health talks was reported. The scheme is still in the experimental stage but is receiving priority in the allocation of funds for travelling. The main difficulty arising is that this increased work is making a heavy call on the already exiguous supply of drugs and dressings. The curative approach is essential to success and ways and means are being sought to overcome this major obstacle.

159. Medical supplies to hospitals and dispensaries were on the whole well maintained during the first three quarters of the year. The very considerable price increases have, however, restricted supplies to little, if anything, above the level of the previous year, despite a considerable increase in the funds allocated for drugs, dressings and equipment.

160. Table VI sets out the incidence of diseases by groups, treated at all Government Hospitals and Dispensaries

TABLE VI—INCIDENCE OF DISEASES ACCORDING TO GROUPS

		Rural Dispensaries			Hospitals					
					Out-patients			*In-patients*		
		Males	*Females*	*Total*	*European*	*African*	*Total*	*European*	*African*	*Total*
1.	Infectious and parasitic diseases	54,236	42,839	97,075	593	70,735	71,328	265	11,568	11,833
2.	Cancer and other tumours	112	92	204	32	512	544	15	300	315
3.	Rheumatism, diseases of nutrition and endocrine glands and other general diseases	5,347	4,408	9,755	150	10,360	10,510	12	474	486
4.	Diseases of the blood and blood-forming organs	1,193	1,313	2,506	48	538	586	3	144	147
5.	Chronic poisoning	—	—	—	—	5	5	—	5	5
6.	Diseases of the nervous system and sense organs	38,163	40,307	78,470	273	35,091	35,364	32	1,562	1,594
7.	Diseases of the circulatory system	179	193	372	149	666	815	42	201	243
8.	Diseases of the respiratory system	62,642	50,222	112,864	325	53,656	53,981	60	2,536	2,596
9.	Diseases of the digestive system	64,779	53,800	118,579	785	50,213	50,998	211	1,394	1,605
10.	Non-venereal diseases of the genito-urinary system	166	1,044	1,210	192	2,287	2,479	56	847	903
11.	Diseases of pregnancy, childbirth and the puerperal state	—	473	473	257	2,737	2,994	151	2,477	2,628
12.	Diseases of the skin and cellular tissues and of bones and organs of locomotion	88,667	50,455	139,122	787	71,977	72,764	87	3,432	3,519
13.	Malformations and diseases of early infancy	—	—	—	7	106	113	3	62	65
14.	Senility	—	—	—	—	58	58	—	15	15
15.	Affections produced by external causes	61,322	25,213	86,535	400	63,738	64,138	70	3,698	3,768
16	Ill-defined diseases	14,597	10,755	25,352	594	16,862	17,456	87	1,403	1,490
	Total	391,403	281,114	672,517	4,592	379,541	384,133	1,094	30,118	31,212

Mission Hospitals and Dispensaries

161. A questionnaire was sent out during 1950 in an endeavour to obtain an up to date picture of the services supplied by the Missions working in the Protectorate. The Table below sets out the picture as gleaned from the replies received.

TABLE VII

	Beds			*Expatriate Staff*		
Mission	*General*	*Maternity*	*Dispens.*	*Doctors*	*Nurses*	*Training Schools*
Church of Scotland ..	229	58	6 ..	3	6 ..	1
Universities Mission to C. Africa	71	33	2 ..	2	5 ..	—
Dutch Reformed Church Mission	147	24	2 ..	2	5 ..	—
Seventh Day Adventists Mission	30	31	1 ..	2	2 ..	1
White Fathers Mission ..	*100	—	8 ..	—	N/A ..	—
Nyasa Mission	—	—	1 ..	—	N/A ..	—
South Africa General Mission	—	—	2 ..	—	1 ..	—
Totals	577	146	22 ..	9	19 ..	2

162. The replies are unfortunately incomplete and more information is being sought. No account is taken in the above table of the maternity and child welfare work and the leprosy work undertaken by the Missions as this information is given in the relevant sections of this Report.

163. To the meagre mission staffs available, the labour entailed in furnishing statistics of the work done each year means that little information is available except from those Missions working under subsidy from Government. However, figures supplied by the Christian Council recently show that during 1950 15,015 in-patients, including maternity cases, and 552,925 out-patients received treatment at Mission hospitals and dispensaries. Attempts are being made to obtain a more factual picture of the volume of the work done by all Missions during each year.

E. Special Services

Central Laboratory

164. The year marked a big advance in that the appointment of a Pathologist (Specialist Grade) and the completion and occupation of the new Central Laboratory have provided a service staffed and and equipped to carry out routine laboratory work within the Protectorate.

165. The Laboratory building is part of the new out-patients wing of the Zomba African Hospital and provides for the first time a Laboratory specifically designed as such. It consists of an office and registry, a Pathologist's room, a large laboratory for the routine work, a sterilizing and media preparation room, a room for the cleaning and preparation of apparatus, a dark room and a lymph preparation room. A petrol-gas engine supplies piped gas to the Laboratory.

166. A greatly increased volume of work has been undertaken during the year. The following figures give some indication of the expansion that has taken place during the past three years, using the year 1938 as typical of the pre-war years.

	Year				
	1938	1948	1949	1950	1951
Routine examinations ..	10,282 ..	21,452 ..	16,985 ..	21,168 ..	33,252
Percentage increase ..	— ..	108% ..	65% ..	106% ..	223%

167. Fluids for intravenous infusion are now being prepared in the Laboratory and since May, 391 bottles of the standard M.R.C. transfusion type have been issued. No reactions have been reported.

Lymph Production

168. Preparations to resume lymph production were made towards the end of 1950 when a new byre for the stabling of calves was built and the lymph laboratory renovated. Owing to staff difficulties it was not until July that full production got under way; since that time sufficient calf lymph vaccine has been prepared to meet the needs of the Protectorate and to ensure an adequate reserve for emergencies. A total of 2,951 ml. of lymph was manufactured and 113,802 doses were issued for use during the year. Calves are supplied from the Prison Farm situated at Pyupyu some ten miles out of Zomba.

169. Reports on the earlier batches of lymph issued indicated that the potency was not high enough to withstand the adverse conditions experienced in the Protectorate. This has been largely remedied by repeated passage of the virus through calves and rabbits alternately. New methods have been introduced by which lymph is ready for use within a month if so required rather than of periods varying from six months to two years as formerly. Checks on the potency of later batches have shown that a lymph active under arduous field conditions is now being manufactured.

* Under construction

Routine clinical Pathology

170. The following routine examinations were performed during the year.

Bacteriological	1,892
Serological	8,024
Biochemical	811
Haematological	3,109
Histological	140
Parasitological	19,089
Medico-legal	66
Autopsies at request of Coroner	30
Autopsies—other	7

171. Points of interest are that, of the pathogens isolated from 255 specimens of faeces, *Shigella flexneri* was predominant and S. paratyphi B was isolated on two occasions only. S. typhi was isolated once from 29 blood cultures. Of 899 urethral and vaginal smears examined, 49.9 per cent. were positive. Out of a total of 7,122 Kahn Tests performed, 37.9 per cent. were positive. 9,142 blood films were examined for malaria parasites of which 40 per cent. were positive. The majority of these diagnoses were made by examination of thick films stained by Field's stain; a series of thin films examined for the identification of strains of parasite showed that the quartan parasite occurs in between 15 per cent. and 20 per cent. of cases. Of 4,725 urines examined for S. haematobium 29 per cent. contained ova. One positive finding of *Onchocercus volvulus* was obtained from two specimens of skin snips submitted and one Onchocerca tumour was diagnosed histologically.

Public Health Work

172. Seventy-four samples of water were examined bacteriologically, this number including monthly samples submitted by the Blantyre and Limbe municipal authorities. Samples from boreholes have generally been satisfactory except where obvious sources of contamination existed. Surface water supplies on the other hand are almost invariably polluted, the exception to this being the Zomba water supply where the catchment area is almost uninhabited.

173. One sample of ropy bread yielded *Bacillus mesenterius*: two samples of flour and scrapings from the kneading trough were obtained from the bakery concerned and the scrapings also yielded the same organism, although the flour was negative.

174. Six rats were submitted for plague examination and all were negative.

Surgical Service

175. The main surgical centres are at Zomba, Blantyre and Lilongwe, the policy being to concentrate, as far as is possible, the major surgery at the larger and better equipped hospitals. Although all the Government hospitals are equipped to undertake emergency and minor surgical procedures, the medical staff available do not always have the surgical training, the trained nursing staff and other facilities to enable them to carry out "set" major surgery. Accordingly provision has been made on the establishment for two special grade medical officers with a post graduate surgical qualification. One such post was filled at the end of 1950 and the second will be filled early in 1952.

176. To try and overcome these difficulties, as well as those inherent in a country containing many isolated communities, it is planned to improve the ambulance service so that each district can have a vehicle available to evacuate patients in need of major surgical treatment to the larger and more central hospitals.

177. The Senior Surgical Specialist was on leave for the first half of the year during which time the Special Grade Medical Officer (Surgeon) acted as Surgical Specialist. A Medical Officer with surgical experience was posted to Lilongwe in the Central Province where it is proposed to station the second special grade Medical Officer (Surgeon) when he arrives. On the return of the Surgical Specialist the other officer in this category was posted to Blantyre where there is the greatest volume of emergency surgery. In addition the Senior Sub-Assistant Surgeon who is in charge of the Blantyre Non-European Hospital—which deals with a great deal of traumatic surgery—was sent to the United Kingdom where he underwent a three months' course in post graduate surgical work.

178. This arrangement permits the Senior Surgical Specialist to undertake a greater volume of work at the Zomba African Hospital which is the training school for Hospital Assistants. Further, it allows the Senior Surgical Specialist more freedom of movement for consultation work in the territory as a whole.

179. The numbers of operations performed during the year at the main surgical hospitals are set out below, the 1950 figures being given for comparison:

	1951			1950		
	Major	*Minor*	*Total*	*Major*	*Minor*	*Total*
Zomba African Hospital ..	297	1,157	1,455	216	1,112	1,328
Zomba European Hospital ..	36	57	93	30	69	99
Blantyre European Hospital	33	56	89	26	56	82
Blantyre Non-European Hospital	85	509	594	109	337	446
Lilongwe	84	260	344	50	86	136

180. The Senior Surgical Specialist reports that the operative work in the Zomba African Hospital has increased by 62.5 per cent. during the period 1946–1951. This has been achieved without any increase in the number of surgical beds available and he comments that this has been possible owing to a more rapid turn-over of patients and an increased allocation of supervisory and better trained ward staff.

181. A sidelight is shed on the need for improved ante-natal and midwifery services in the districts by the fact that there were as many patients requiring transplanation of the ureters for otherwise incurable vesico-vaginal fistulae as required simple herniotomies.

Health Survey—Domasi Community Development Scheme

182. This Scheme is the subject of a separate Annual Report by the District Commissioner in charge. Briefly, the Domasi Community consists of 15,953 persons populating an area of 102 square miles which lies to the north of Zomba. The people live in an aggregation of small villages scattered along the hillsides to the west of the main north road, and along the Chilwa plain to the east. The area is intersected by a number of small streams draining to the east, flowing rapidly at first and tending to pool as the plain is reached.

183. As a result of the establishment of a Jeanes School at Domasi some thirty years ago there has been a close contact with the administrative and social welfare departments of Government. Starting in 1949, the Domasi District became the locus of an experiment in community development under the direction of a District Commissioner.

184. The medical and health service centres round a rural dispensary and a maternity and child welfare clinic both closely adjacent to the Jeanes School. A lady Welfare Officer, whose qualifications include those of a trained nurse and midwife, supervises the maternity and child welfare service assisted by a staff of African Midwives. There are four maternity beds at the Clinic. The rural dispensary is in charge of a Hospital Assistant and this unit comes under the supervision of the Medical Officer in charge of the Zomba African Hospital. Two Sanitary Assistants are also posted to the District, their activities being guided by the Health Inspector at Zomba.

185. The shortage of staff during the post war period has prevented anything but sketchy medical supervision of the health aspects of the Scheme. Towards the end of 1950, however, plans were made to carry out a pilot general health survey of the community which was designed to gather data for the development of a positive and integrated health policy and to gain experience of a survey technique that can be applied by district Medical Officers to other areas.

186. From January to May, 1951, the Medical Officer of the Zomba European Hospital carried out a survey on a part—time basis. It was not possible under the circumstances existing to survey an entirely random sample but approximately 10 per cent. of the total population was surveyed, using family groups as subjects as far as was possible. The survey was carried out with little difficulty as the co-operation of the villagers was unusually good.

187 Attention was directed to the incidence of malaria, bilharzia, chest diseases, minor signs of dietetic deficiencies, syphilis, sensitivity to tuberculosis and blindness. The detailed analysis of the findings will be published later as a scientific paper.

188. The finding of major importance arising from the preliminary survey is that the incidence of bilharzia is patchy and is most prevalent to the east of the main road and appears to be amenable to control at low cost. Therefore, the first result has been a campaign directed towards the improvement and protection of domestic water supplies and an attack on the "snails habitat". The campaign was preceded by propaganda, greatly assisted by a mobile information unit of the Public Relations Department. The next step was an approach by the staff of the district to the various family and village groups and advice as to the cleaning and protection of the village water holes. By the end of the year, using such methods as the clearing of vegetation, the lining of the sides and approaches to water points and in some cases the piping and covering in of spring water, 23 of these village water holes had been vastly improved, much to the gratification and pride of those villagers who had carried out the bulk of the work on a voluntary basis.

189. The Medical Officer who carried out the survey is at present undergoing a course for the Diploma of Tuberculosis Diseases at Cardiff and when he returns he is to be posted to Domasi as District Medical Officer. The survey work will then be extended in the light of the experience already gained and a campaign of prevention of the common endemic diseases developed as far as possible on a self-help basis. Special attention will be paid to the problem of tuberculosis in a rural area.

Dental Services

190. The Dental Surgeon was on leave from May until November during which time it was possible to obtain a *locum tenens* dentist for only two months. Accordingly, the detail of work reported covers a period of eight months.

191. Lilongwe and Mzimba in the Central and Northern Provinces respectively were visited during March and April. Normally, these Provinces are visited twice each year, but with only one Government Dental Surgeon and one private dental practitioner in the whole of the Protectorate, the service inevitably falls short of the demand for conservative work, quite apart from the preventive aspect. A system of dental nurses has proved very successful elsewhere, but such personnel cannot be trained until there is an adequate staff of dental surgeons to enable the teaching and supervision to be effective. A second Government Dental Surgeon is to be appointed to the establishment in 1952 and attempts are being made to attract another dental practitioner to the Blantyre/Limbe area where there is undoubtedly scope for a private practitioner.

192. There were 4,487 attendances at the dental clinics, of which 1,572 were by European patients. During 1950, the relevant totals amounted to 4,724 and 1,908.

Medical Specialist

193. The post of Medical Specialist appeared in the Estimates for 1951 for the first time, and the post was filled during March. This officer was posted to the Zomba African Hosiptal where he has 35 beds in the African and Asian wards and where he undertakes the systematic and clinical teaching of medicine to the Hospital Assistants in training.

194. This appointment has already proved of great benefit to the Service as a whole, particularly from the point of view that there is now a well-qualified physician in the Territory whose advice is available at short notice when medical emergencies arise. Previously, such emergencies frequently entailed expensive, long and anxious journeys outside the Protectorate to centres in Southern Rhodesia and the Union of South Africa. This does not mean that the country can be self-contained in this respect. The complexity of modern medicine is such that no one man can be fully experienced in all the specialties within the general speciality of medical diagnosis and treatment. However, the gravest emergencies can be dealt with, whatever subsequent therapy may be entailed outside the Protectorate.

195. In order to obtain an appreciation of the medical problems in the districts, the Medical Specialist toured the Central and Northern Provinces during May. Routine visits were paid weekly to Blantyre for consultations at the hospitals there. There were a number of calls for emergency consultations, three of which were to Lilongwe.

196. The report by the Medical Specialist on his work for the period April to December, 1951, is at Annexure 'A'.

Radiography

197. The X-ray equipment at Lilongwe was installed and ready for use during May, 1951. This has provided an emergency service for the Central and Northern Provinces as well as more adequate equipment for an improved general hospital service at Lilongwe.

98. A limited number of Hospital Assistants has been trained in the elementary techniques of radiography by the Radiographer at the Zomba African Hospital. Three men now have adequate training to undertake routine work and a fourth is in training.

199. Regular weekly visits by the Radiographer to Blantyre have been maintained, the portable X-ray apparatus at the Blantyre European Hospital being used for this service. The re-conditioned plant installed at the Blantyre Non-European Hospital has not been put into use owing to certain faults rendering the machine unserviceable until such time as spares can be obtained.

200. A total of 2,697 patients were X-rayed during 1951, the relevant figure for 1950 being 1,570. Owing to the world shortage of X-ray films, great economy has had to be exercised; despite this, it can be said that, within the facilities available, a reasonable interim service has been provided pending the building of the new Group Hospital at Blantyre.

F. Maternity and Child Welfare

201. The Medical Missions continue to do the greater part of the maternity and child welfare work in the Protectorate. Those Missions that have a qualified medical practitioner and a qualified European midwife exercising direct supervision of the service, receive an annual grant in aid from Government. At the Government hospitals, clinics are maintained and a number of maternity beds are available. Table VIII sets out the work done during 1951:—

TABLE VIII

Numbers of confinements and first attendances of all races at Maternity and Child Welfare Clinics maintained by Missions and Government during 1951.

*	*Confinements*	*Ante-natal Clinics*	*Child Welfare Clinics*
Church of England (5)	610	955	604
Church of Scotland (5)	3,233	2,159	2,459
White Fathers (6)	1,653	2,372	3,999
Seventh Day Adventists (1)	388	400	99
Dutch Reformed Church (6)	1,508	1,326	399
Government Hospitals (21)	2,412	2,729	673
TOTAL 1951	9,804	9,941	8,233
TOTAL 1950	6,892	8,956	6,772
TOTAL 1949	7,742	9.045	8,782
TOTAL 1948	6,745	7,620	6,759

202. It was noted in the 1950 Report that there had been a considerable drop in attendances when compared with 1949. Those in charge of certain of the rural centres were of the opinion that the preoccupations of the food shortage during the critical early months of 1950 had prevented many attendances at ante-natal clinics and that it would be some time before the habit of attending clinics was resumed. It is obvious that the ante-natal clinics have recovered their former popularity and that considerably more women are having their babies in clinics and hospitals. The infant welfare attendances for 1949 were undoubtedly increased sharply by the food shortage. However, by comparison with the 1948 and 1950 figures, there was a substantial increase in attendances during 1951.

203. The Nyasaland Branch of the British Red Cross Society continued to give regular donations of dried milk to the Mission clinics and this generous support continues to evoke great appreciation.

* Figures in brackets denote the number of clinics maintained.

G. Training of African Personnel

204. During this first phase of the development plan, the expansion of training facilities has taken priority. Therefore, a short resume of the aim and systems of training is not out of place.

205. The aim is to provide a comprehensive medical service in the Protectorate within the means of the community. This may seem trite, but the fact remains that this aim is not generally appreciated. In a country where the average family income of the majority is as low as it is in Nyasaland, the proportion of the national income that can be set aside for medical services must be correspondingly small. This being the case, an establishment of fully qualified doctors, trained nurses and health inspectors cannot be maintained. Therefore it is essential to have a substantial cadre of locally trained medical and nursing auxiliaries in the hospitals, health units and dispensaries who can deal with the minor complaints and the common endemic diseases so frequently seen in out-patient practice; such auxiliaries must also be trained to recognize those categories of illness beyond their capabilities so that the patients concerned can be referred to those with higher qualifications and greater experience. In the field of prevention, the same principles apply.

206. A study of the hospital and dispensary statistics will show that this aim is not unrealistic. Bilharzia, hookworm, malaria, tropical ulcer, minor digestive and respiratory complaints and minor injuries constitute the great majority of complaints treated. Given the requisite standard of elementary education, an eminently practical auxiliary can be trained in a relatively short time; with continuing experience under sympathetic supervision such auxiliaries can, over a period of years, achieve a high standard of attainment.

207. Primary education in Nyasaland has now progressed to the stage where an adequate number of men with Standard VI education is available for selection for training as Medical Aides and Hospital Assistants. During 1951, a course of training in midwifery was started for girls with a Standard VI certificate. Experience has shown that the Standard VI educational attainment is the optimum, under present conditions, for the training of practical medical and nursing auxiliaries. When these men and women qualify, they have not lost touch with the village life and, eventually acquiring experience and seniority, they do fit in to the community as leaders in their own spheres of influence.

Courses at Government Training Centres

208. *Hospital Assistants and Medical Aides:* The course for Medical Aides lasts for two years, the first year being given over to the practical teaching of elementary nursing. During the second year, the diagnosis and treatment of the common diseases encountered in dispensary practice is taught, using the Rural Dispensary Handbook compiled by Dr. D. A. Baird, as the basis for the teaching. This loose-leaf handbook is brought up-to-date from time to time and is issued to each rural dispensary where it is available for reference. Examinations are held at the end of the first and second years, the latter being the qualifying examination for Medical Aide status. From amongst the Medical Aides, five or six men are chosen on grounds of character, responsibility and aptitude for a further year of intensive training in the elements of medicine, surgery, *materia medica* and laboratory methods. At the end of this third year, written, practical and oral examinations are held and those who satisfy the group of examiners, consisting of a number of the senior officers of the Department, qualify as Hospital Assistants. After qualifying, both groups of auxiliary are posted to hospitals where, if the staff position allows, they continue to work under the direct supervision of a Medical Officer for another two years.

209. *Sanitary Assistants:* The course of training is conducted at the Sanitary Assistants Training School in Zomba. The minimal entrance qualification is a Government Standard VI certificate and the course lasts for two years, during which time the emphasis is laid largely on practical work. The first year is devoted to elementary theory reinforced by intensive practical instruction under close supervision. During the first six months of the second year the pupils are posted to a district where they work under the immediate supervision of an experienced Sanitary Assistant and under the guidance of a Medical Officer or a Health Inspector. The pupils then return to the school for a further six months of instruction before sitting the qualifying examination which consists of written, oral and practical tests.

210. *Midwives:* Although this training is conducted mainly by the Missions, Government maintains a Training School at the Zomba African Hospital. In the past the entrance qualification has been an ability to read and write the vernacular and the course has been conducted in this medium. Despite this, the field of recruitment has been seriously restricted by the fact that village tradition requires that only women who have borne children themselves can attend at childbirth in the home.

211. During recent years unmarried girls have been accepted for training at the Zomba School and those who qualify have been posted to Government Hospitals. The services of these Midwives are now being accepted by those women who come to the Government hospitals for their confinements and an increasing number of childbirths take place every year in the maternity wards.

212. The Midwives Board, representative of all interests engaged in midwifery training in the Protectorate, has been concerned about the lack of suitable candidates coming forward. The Board came to the conclusion that, as a number of African women with a Standard VI educational qualification would be available for training from 1951 onwards, a course of training in the English language should be started at the Zomba African Hospital and the scope of the curriculum extended. The legislation was amended accordingly and plans made to start the course during October, 1951. To begin with, this more advanced training will be conducted only at the Zomba African Hospital while the Missions will continue to accept and train such candidates as come forward for the vernacular course.

213. The Board feels that when better educated women, trained to a higher standard, can be posted to Government hospitals and Health Units the quality of the service will be improved and that this will eventually combat the present prejudice against unmarried midwives working in the villages.

214. Both courses of training last for two years, the first year being devoted to instruction in elementary general nursing. An examination is held at the end of this year and those who pass are admitted to the second year, during which time they receive an intensive training in systematic and practical midwifery. At the end of the courses the students sit the examinations held by the Midwives Board and those who qualify are entitled to admission to the Midwives Roll.

Courses at Mission Training Centres

215. *Hospital Assistants and Medical Aides:* The Malamulo Mission of the Seventh Day Adventists conducts a course of training for Hospital Assistants. The course lasts for four years during the first three of which a curriculum similar to that in use at the Government school is followed. The fourth year is spent in special training to fit these men for work at the Mission hospital and dispensary units.

216. The Church of Scotland Mission at Livingstonia trains Medical Aides, for which work a subsidy is paid by Government. The course follows the same pattern as that in use at the Zomba African Hospital.

217. *Midwives:* There are seven Mission centres training Midwives in the vernacular. The training is controlled by the Midwives Board and the course is governed by the Midwives Rules, 1947.

Training during 1951

218. *Zomba African Hospital:* Six Hospital Assistants qualified during 1951 and were posted for duty. Of the second year trainees sitting the qualifying examination, sixteen passed of whom six were selected for training as Hospital Assistants; the other ten were posted to hospitals throughout the Protectorate. Sixteen men passed the first year examination and moved into the second year class. There was an intake of twenty first year students, of whom two had the Standard VIII educational qualification.

219. *Lilongwe African Hospital:* The main event of the year was the completion of the Training School for Medical Aides at Lilongwe which was opened by the Director of Medical Services in November. There was a full complement of twenty students when the School was opened. The buildings, which consist of an administration block, classrooms, dormitories, dining hall, common room, kitchens and services, are designed to accommodate forty students, twenty in each year of the course. Hospital Assistants will continue to be trained at Zomba until the new Group Hospital at Blantyre is completed, when the third year training will be undertaken at that centre. The Medical Officer of the Lilongwe African Hospital is in charge of the training, assisted by a Wardmaster-Instructor, who is a qualified male nurse, and by a Nursing Sister. Plans had been made to provide additional beds for training purposes at the hospital but unfortunately the financial situation did not permit of the work being undertaken. Accordingly, the scope of training will be somewhat restricted until additonal beds can be provided.

220. *Sanitary Assistants.* Ten candidates sat the qualifying examination and nine passed, one being deferred. Six trainees were admitted to the first year of the course. Eight Sanitary Assistants attended refresher courses during the year, this being a very necessary function of the School in view of the fact that during the war and immediate post-war years the course of training was curtailed and standards lowered as the result of staff shortages.

221. *Midwives.* At all centres 65 women were in training. Of this number 32 sat the examinations held during March and September; 28 passed the examinations and were entered in the Roll of Midwives.

Higher Education Outside Nyasaland

222. Africans who have attained the requisite standard for admission to Colleges and Universities outside the Protectorate are given generous bursary assistance to enable them to proceed to diploma or degree status. One student at Makerere College passed the final examinations for the Diploma in Medicine of East Africa and is to spend an additional year as an intern at the Mulago Hospital before returning to Nyasaland as an African Assistant Medical Officer. A second student obtained the B.SC. at the South Africa Native College at Fort Hare, his degree subjects including the necessary pre-medical subjects which enabled him to obtain admission to a South African University Medical School. The course at Fort Hare also entitles him to remission of the first year of the medical course.

223. One African woman student obtained her South African Matriculation Certificate and in 1952 she is entering the South African Native College at Fort Hare to take her pre-medical science subjects before proceeding to a medical school.

SECTION III. VITAL STATISTICS

224. The following Tables show sick, invaliding and death rates for European and African officials during 1951, together with the corresponding figures for 1950.

A. European Officials

	1950	1951
Total number of European officials resident	649	746
Average number resident	516.7	579.9
Total number on sick list	191	217
Total number of days on sick list	2,502	1,969
Average daily number on sick list	6.8	5.4
Percentage of sick to average number resident	1.1	1.56
Average number of days on sick list for each patient	13.09	9.07
Average sick time to each resident	3.85	2.57
Total number invalided	2	1
Percentage of invalidings to total resident	0.30	0.13
Total number of deaths	Nil	1
Percentage of deaths to total resident	Nil	0.13

B. African Officials

Total number of African officials resident	6,811 ..	7,837
Average number resident	6,446 ..	7,324
Total number on sick list	776 ..	841
Total number of days on sick list..	6,809 ..	6,766
Average daily number on sick list	18.65 ..	18.53
Percentage of sick to average number resident ..	0.29 ..	0.25
Average number of days on sick list for each patient	8.77 ..	8.04
Average sick time to each resident	0.99 ..	0.86
Total number invalided	3 ..	Nil
Percentage of invalidings to total number resident ..	0.004 ..	Nil
Total number of deaths	5 ..	7
Percentage of deaths to total number resident ..	0.07 ..	0.08

SECTION VI. HYGIENE AND SANITATION

225. The appointment of an Assistant Director of Medical Services (Health) to the vacant post on the establishment enabled a great deal of basic work to be undertaken in connection with the drafting of subsidiary legislation, the development of environmental health services in the urban areas, estate hygiene, vector control, the health aspects of town planning and rural sanitation. Unfortunately, the recruitment of Health Inspectors was at a complete standstill and the practical application of much of the planning, particularly in the rural areas, was impossible. Despite the difficulties, much useful work was done.

Urban Sanitation

226. The Blantyre Town Council has had a full time Health Inspector on the staff since September, 1950, and the Limbe Town Council made a similar appointment during May, 1951. Both Zomba and Lilongwe Town Councils have appointed Town Managers, thus relieving the Health Inspectors at these two centres of certain executive duties in connection with sanitary services.

227. The Advisory Board of Health conducted an equiry into the sanitary services provided by the Blantyre and Limbe Town Councils and submitted a report to His Excellency the Governor, making recommendations. The situation which gave rise to the enquiry had developed as the result of the very rapid growth of the population of the two townships during the post-war period. A severe housing shortage led to gross overcrowding, particularly of the Asian and African population. The Blantyre Municipal Water Supply was totally inadequate to the needs of the population and this was further aggravated by the drought during the 1948–1949. In Limbe, there was no township water supply, water for domestic needs being obtained from a number of shallow wells and from boreholes. Without a reticulated water supply, a comprehensive sewerage scheme is impossible and a variety of expedients have necessarily been adopted. Pail latrines, pit latrines, aqua privies and individual septic tank installations are the systems of disposal in use. The pail latrine systems in the two townships were entirely inadequate; removal and cleaning facilities sketchy and ill-supervised and, generally speaking, the townships were in a grossly insanitary state, particularly as the majority of the African population had either no sanitary conveniences at all or extremely inadequate ones.

228. After an exhaustive investigation of the existing conditions by the Health Inspectorate, a series of meetings were held with representatives of the Town Councils and a report drafted in consultation with all interests affected. The Report by the Board, as submitted to Government, recommended:

(*a*) that a firm of consulting engineers be engaged to survey the central congested areas of the townships and to prepare a draft sewage scheme which would also make provision for future extensions in conformity with the Town Plan;

(*b*) that Municipal Health Committees should be formed where these do not already exist;

(*c*) that amalgamation of the health services of the two Townships—which are adjacent and now virtually continuous—should be expedited; that the bye-laws should be revised and made uniform;

(*d*) that Loan Funds should be made available to finance the cost of providing an efficient service;

(*e*) that the Town Councils should investigate the gross overcrowding and sub-division of plots, report and make recommendations for abatement;

(*f*) that the economics of the provision of sewerage for the African community in the Townships should be studied with a view to evolving a system of sanitary rating whereby a contribution should be made by that community towards the cost of this service;

(*g*) that the Public Health Legislation should bind the Crown.

229. The difficulty of providing even a sub-economic sanitary service is well illustrated by the fact that only 3 per cent. of the householders within the Townships' boundaries are rate-payers.

230. The appointment of municipal Health Inspectors and the formation of Health Sub-committees in the two centres have done a great deal to improve existing services and to enable limited expansion to take place. Conditions have improved considerably, but the enormity of the problem will entail a number of years of intensive effort before the environmental conditions can be judged to be satisfactory by modern standards.

231. In Zomba, steady progress was made throughout the year. The new Naisi Housing Estate was converted to water-borne sanitation by means of septic tank installations. The main portion of the Zomba Township was surveyed and a programme of development of the sanitary services was drawn up which will be completed over a period of years as funds and other resources permit.

Rural Sanitation

232. There is no spectacular progress to report; the staff shortages and lack of travelling facilities have meant that little more than routine inspections of the larger centres has been possible. It is encouraging that the Native Authorities continue to show an increasing interest in health problems and the more frequent visits to the villages by members of the African Staff of the Department has tended to broaden this interest. When demonstration teams can be formed which will give practical instruction to those Native Authorities requesting help, it is believed that the development of rural sanitation will become more obvious than it is at present. Reports from officers in medical charge of rural stations, however, do underline the fact that the more active health propaganda now being carried out is beginning to have an effect in that more adequate sanitary conveniences are appearing in the villages and Native Authorities are levying more fines on persistent offenders against the Native Authority Sanitary Rules.

Water Supplies

233. In the Urban areas of Blantyre, Limbe, Zomba and Lilongwe, work is going ahead on schemes designed to provide adequate, protected and reticulated domestic supplies. Considerable preliminary work has also been carried out at a number of other centres where piped supplies are to be developed.

234. Now that the Central Laboratory is fully staffed, facilities are available for a regular bacteriological check of the water supplies to the larger Townships. Reference has already been made to this in the section dealing with the work of the Laboratory.

Meat and other Foods

235. Meat inspections are carried out by qualified inspectors at Zomba, Blantyre, Limbe and Lilongwe. The following inspections were carried out at these centres:—

	Bovines	*Sheep & Goats*	*Pigs*
Zomba	635	1,665	49
Blantyre	2,267	107 316	301
Limbe	2,176	536 2,318	32
Lilongwe	825	132 528	44
TOTALS	5,873	5,602	426

Condemnations	
Whole Carcases	4
Livers	2,026
Kidneys	13
Plucks	32
Heads	4

236. The commonest cause of condemnation of whole carcases was *cysticerus bovis* and four such carcases were seized and destroyed. Only one animal showed signs of tuberculosis and that was an ox from which the whole hindquarter only was condemned.

237. Considerable improvements were carried out at the Limbe abbatoir while the Blantyre and Zomba slaughterhouses were well maintained. The Lilongwe slaughterhouse is still in a most unsatisfactory state and very considerable improvements are necessary to bring this building up to a reasonable standard.

238. In the Sanitary Board areas and at certain of the larger markets, meat inspection is carried out by Sanitary Assistants who work under the supervision of the officer in medical charge of the district concerned. There has been a definite improvement in the conditions under which slaughtering is done at Ncheu, Dedza, Linthepe and Tete markets. A standard type of slaughter pole was adopted by the Department during the year and four such slaughter poles are now in use at these markets. Of cheap construction, the cost is well within the means of those Sanitary Boards and Native Authorities drawing revenue from the larger markets, and it is hoped that the type plan will be used generally when new markets or slaughtering places are built. At the Dedza, Linthepe and Tete markets, humane killers are in use, purchased by the local authorities concerned.

Markets

239. Generally speaking, the cleanliness of markets and the conditions of sale of food have been receiving increasing attention. The urban markets are visited regularly by the Health Inspectors to ensure that the food offered for sale is in a wholesome condition. Special attention has been paid to the condition of fresh fish arriving in the urban centres from the Lake shore and several consignments were seized and destroyed.

240. The conditions of marketing of fresh fish present a real problem, particularly in regard to transport from the Lake shore. The fish is loaded, ungutted, direct into lorries without care as to the packing, with the result that, particularly in the hot season, the lower layers of fish are in very poor condition by the time the consignments reach the markets. This problem is being investigated with a view to improving the system of packing and distribution and to ensure that this valuable foodstuff is not wasted due to lack of elementary precautions in handling.

African Canteens

241. Close attention was paid to the cleanliness and sanitation of canteens at the larger centres of the population and at the more important markets. The scope of this work was again greatly restricted by the lack of staff and of travelling facilities.

Housing

242. African housing continued to receive urgent attention and 380 permanent houses were built for Government employees during the year. Rising costs and contracting revenues, however, again made a review of standard plans imperative in order to try and lower costs while maintaining adequate standards of space, ventilation, light and construction. An African Housing Committee consisting of the Labour Adviser as Chairman, the Director of Medical Services, the Director of Public Works, the Architect and two senior African Government employees was appointed for this purpose and a report was submitted to Government during the last week in December.

Town Planning

243. A Town Planning Officer was appointed and assumed duty during March. The Town Plan for Blantyre and Limbe was completed and approved by the Governor in Council; town plans are also in the course of preparation for Lilongwe and Nkata Bay.

Hotels

244. The Provincial Hotels Boards, established during 1950, reviewed the existing establishments and took active steps to improve the standards of accommodation and service. As a result, there has been an improvement in the standards of hygiene observed, although much yet remains to be done. With an expanding tourist traffic in a territory where many tropical diseases are endemic, but readily preventable, it is of vital importance to ensure that health safeguards are enforced rigidly.

Port and Railway Health Administration

245. The expanding steamer traffic on Lake Nyasa is bringing the question of Port Health Control into greater prominence. Arrangements have been made for a liaison between the Tanganyika Health Authorities and the Department to ensure notification of any outbreaks of epidemic disease in either territory. The steamer service is operated by the Nyasaland Railways which employs its own health staff and close co-operation is maintained with the Chief Medical Officer in Limbe.

246. An investigation into the rodent position at the Monkey Bay Port, which is the terminal of the steamer service, revealed that there is an active rodent population in this area. Plague has been a rare event in Nyasaland and has never assumed anything approaching epidemic conditions. So far, the few rodent specimens examined have proved to be healthy, but with plague endemic in Tanganyika Territory there are no grounds for complacency. Staff shortages have prevented a comprehensive investigation, but a close watch is being kept on the situation.

247. There was no outbreak of epidemic disease during the year which necessitated any restrictive measures being placed on railway traffic.

Air Services

248. The Central African Airways feeder services connecting with the main trunk air routes are increasing steadily and close attention is paid to health control at Blantyre (Chileka) Airport. Work has continued on the development of a bacteriologically pure water supply at the airport and of a satisfactory and safe system of sanitation. Further work is planned for 1952 to bring this main airport of the Protectorate into line with the requirements of the new draft International Sanitary Regulations.

Industrial Health

249. The appointment of an Assistant Director of Medical Services (Health) meant that closer attention could be given to industrial health. A number of visits were paid to factories and estates and advice given on health problems. In liaison with the Factories Inspector, the Factories Board and the Officers of the Labour Department, it was possible to effect a number of improvements in environmental hygiene and to improve certain health safeguards in industry.

Work of the Health Inspectorate

250. Of the permitted establishment of one Chief Health Inspector and seven Health Inspectors, only four of the posts were filled. Recruitment continued to be unsuccessful and, with normal leave requirements, the effective establishment for the greater part of the year was one Chief Health Inspector and two Health Inspectors. The appointment of Health Inspectors to the municipalities of Blantyre and Limbe relieved the strain in these two urban areas, but this still does not allow of more than sketchy supervision of the environmental health of the larger rural centres.

251. Emphasis on the training of African Sanitary Assistants continued to have priority. An important activity of the Training School is the preparation and staging of health demonstrations at public gatherings. The few demonstrations possible under the circumstances were well received.

252. Vaccination against smallpox was re-organized and continued on a smaller scale, but it is believed that this resulted in a greater proportion of efficient vaccinations. On the main routes of travel and in the Cholo and Mlanje Districts, routine vaccination was maintained.

Vector Control

253. This service is still handicapped by lack of equipment and shortage of personnel. Despite this, routine treatment with insecticides was expanded, special attention being paid to the Lower River and certain of the Lake Shore stations. Equipment ordered during 1950 had not arrived by the end of the year, but depots of insecticide had been established in each of the three Provinces.

254. In Zomba, work in connection with permanent draingage as an anti-malarial measure continued. Open-jointed stone work is being used to canalize the main streams and the results achieved at low cost have been very satisfactory. Larval control by oiling continues to be carried on by permanent gangs at all centres where this is necessary.

255. Again, a special tribute is due to the Health Inspectors and their staffs. There is much to be done towards the prevention of disease which is handicapped by lack of essentials. Despite this, the fullest use has been made of the meagre facilities available and acknowledgement of the cheerful and practical way this has been done is in itself the greatest tribute that can be paid to the character of those engaged in this branch of the work.

SECTION V. PRISONS AND ASYLUMS

Prisons

256. The health of the prisoners was good and no epidemics occurred during the year. The daily average number of prisoners in all prisons was 911.00, a decrease of 69.87 over the previous year. 334 prisoners were admitted to hospitals throughout the Protectorate; the daily average number of prisoners on the sick list was 18.56. There were 15 deaths, of which 10 were accounted for by judicial execution.

Central Prison, Zomba

257. There is a prison hospital of 14 beds situated within the prison and the daily average number of in-patients was 7.2; admissions for the year totalled 285, of whom 59 required admission to the Zomba African Hospital. 4.845 out-patient attendances were recorded at the Prison Hospital.

258. This hospital is in charge of a Hospital Assistant or a Senior Medical Aide, assisted by a warder who has an elementary knowledge of nursing; trusty prisoners act as orderlies in the wards. The prison and hospital is visited on three mornings each week by the Medical Officer from the Zomba African Hospital, or more frequently as the need arises. The Medical Officer also pays regualr visits to the Pyupyu Prison Farm where a dispensary is maintained which is in charge of a Medical Aide.

259. The commonest causes of admission to the Prison Hospital were malaria and secondary syphilis. Amongst out-patients, accidental wounds and abrasions accounted for 516 attendances, coryza for 194 attendances, ulcer for 187 attendances, bronchitis for 162 and headaches for 160 attendances.

260. There were 15 deaths in the Central Prison, 10 of which were by judicial execution. Typhoid fever and cerebro-spinal meningitis each accounted for one death.

Central Lunatic Asylum

261. The report of the year's work by the Medical Officer in charge of the Asylum is at Annexure 'B'. The Medical Department took over the administration of the Asylum as from the 1st January, 1951. For this first year, an officer was seconded from the Prisons Department and he supervised the routine administrative detail of the institution under the direction of the Medical Officer.

262. The daily average number of in-patients was 134.3 and out-patient attendances numbered 1,922, of whom 142 were females. There were 114 admissions to the hospital in which there was a daily average of 4.72 patients. Three deaths occurred during the year due to heart failure, tuberculosis of the lungs and senility respectively; all were male patients.

263. Admissions during the year totalled 39, of which 34 were males; 12 male and two female patients were discharged cured or to the care of relatives. One Asian male was admitted and one was discharged.

264. The Visiting Committee, consisting of the Medical Officer in charge as Chairman and three unofficial members nominated by His Excellency the Governor, met regularly each month to inspect the Asylum and to review the cases of all persons either admitted or due for discharge. Individual members of the Committee also visited at intervals.

Buildings

265. Apart from the completion of the interior decoration of that portion of the new Mental Hospital built during 1950, no further construction work was undertaken in 1951, it being deemed necessary to hold over the second stage of the building until 1952. Accordingly, it was not possible to transfer patients to the new hospital with the exception of a certain number of "trusty" patients who are housed in two blocks of the new building.

Acknowledgment

266. It is with gratitude that acknowledgment is made of the hard work and enthusiasm of all grades of staff of the Department throughout the year. Tribute is also paid to all those departments of Government which have given the assistance and co-operation that has made possible any advance recorded in this first stage of the development plan.

D. J. M. Mackenzie
Director of Medical Services

REPORT BY THE MEDICAL SPECIALIST

(For the period April—December, 1951)

Introduction

The appointment of Medical Specialist did not exist in Nyasaland until I was appointed in March, 1951. As in most first appointments quite a lot of time and energy had to be devoted to the process of " settling in ". In May I made a tour of Nyasaland and visited Fort Johnston, Dedza, Lilongwe, Mzimba, Kasungu, Njakwa, Livingstonia, Karonga and Kota Kota. This enabled me to meet the Medical Officers, and see the various district hospitals. Hookworm and Schistosomiasis were common diseases everywhere, but it was apparent that certain Medical Officers had a partiality for some diseases. For example in one hospital most of the beds were occupied by sufferers from tropical ulcer. Epilepsy was very common, but epileptics were seldom admitted for this disease. They only came to hospital for the treatment of burns sustained by falling in the fire. Epileptics were particularly numerous in Kasungu and Kota Kota. In Mzimba there were many cases of relapsing fever, and at Karonga and Kota Kota I saw some cases of severe anaemia which was thought to be due to hookworm infestation. Filariasis was common at Karonga but nowhere else. I was unable to find a genuine case of trypanosomiasis or yaws anywhere during my tour. Pulmonary tuberculosis was fairly common in all stations, but I formed the impression that this disease was only diagnosed in the late stages. Many tuberculous patients were treated as pneumonia until the fever subsided or until tubercle bacillus were found in the sputum. In the absence of X-ray facilities earlier diagnosis is unlikely in future.

I was asked many questions concerning treatment by the Medical Aides and Indian Assistant Surgeons. The Monthly News Letter was considered by them to be a useful medium for spreading information. While at Kota Kota I took the opportunity of examining the snails in the fresh water streams running into the Lake. Numerous cercariae were found both in the water and in the livers of the snails. However, on microscopic examination all the cercariae had non-bifid tails and so did not belong to the species which carry bilharzia. Extreme cases of malnutrition were rare, but I saw some oedematous patients. These were probably cases of hypoproteinaemia. I also saw a few minor degrees of ariboflavinosis and pellagra.

Consultations by Appointment

During the nine months under review I was called to Lilongwe three times for consultation. In addition I visited Blantyre every week for consultations in the European and Non-European Hospitals, in addition to emergency calls. The number of consultations in the various hospitals was as follows:—

European Hospital, Zomba	42
African Hospital, Zomba	90
European Hospital, Blantyre	142
Non-European Hospital, Blantyre	108
Total consultations by appointment in 9 months	382

In-patients

Thirty-two African and three Indian beds were under my direct control. In addition I had many patients referred to me while in other wards. A number of in-patients were treated by me in the European Hospital, Zomba. It is perhaps of interest to note that one bed does not always mean one occupant. Double beds were not provided but in the women's ward occasionally a single bed accommodated several persons. For example on 20th February, 1952, I held a census of occupants and found that in eleven female beds there were 18 patients and eight guardians. The total number of African patients that passed through my 32 beds in the months was approximately 500. Of these 169 suffered from malaria. Respiratory diseases produced the next highest total, 106; hookworm was next with 50 cases and schistosomiasis and tuberculosis accounted for 45 cases each. There were no other large groups of diseases.

Six patients suffered from psycho-neuroses. Anxiety states were quite common. Many of these cases were bewitched *i.e.* they had offended against tribal custom and this caused mental symptoms. In some cases there was marked depression which was sometimes followed by outbursts of excitement. This took the form of yelling round the hospital and refusal to stay in bed. One woman left her baby, removed her clothes and shouted round the hospital for two days. She was eventually caught and sent home to her village in a lorry. One male patient who suffered from impotence was extremely depressed. Apparently he had to stay with his mother as no woman would live with him. Hormone therapy and interrogation under Anaesthesia were of no avail and he was discharged in status quo.

Pneumococcal Meningitis was seen in five patients. There were two cases of tuberculosis meningitis and one of benign lymphocytic chorio-meningitis. Primary carcinoma of the liver was diagnosed in four cases and two cases of malignant skin disease were seen.

Conjunctivitis and infections of the eye were extremely common. The native practice of pouring an irritant medicine into these patients before admission caused a fair amount of blindness. Many patients were admitted with the pus streaming from both eyes. They constantly wiped the pus away with their hands and clothing and so spread the infection to their children and others. There were very few cases of dysentery. In nine months I have not seen a single African case of amoebic dysentery and on no occasion have I received a positive culture for the bacillary group. There were, however, three or four cases of typhoid. Syphilis and gonorrhoea were common. The former disease accounted for most of the neurological cases in paraplegia and hemi-plegia. The following diseases were seen occasionally:—

Pellagra and ariboflavinosis	3 cases
Relapsing Fever	4 ,,
Arthritis	3 ,,
Nephritis	5 ,,
Diseases of Ear	4 ,,
Syphilitic and rheumatic hearts	5 ,,
Pericarditis (tuberculous)	3 ,,
Thrush	3 ,,
Whooping Cough	10 ,,
Skin diseases (ringworm, etc.)	6 ,,

Deaths

Comparatively few deaths occurred in hospital. The relatives of most patients had a shrewd idea when death was imminent and they brought them to their homes to die. Only a few post-mortems were held.

The following patients died in my wards during the nine months under review:—

Female	aged	20	Nephritis and uraemia
Male	,,	2	Broncho-penumonia
Male	,,	35	Pneumococcal meningitis
Male	,,	6	,, ,,
Male	,,	11	,, ,,
Male	,,	25	Alcohol poisoning and malaria
Male	,,	35	Epithelioma skin
Male	,,	10	Pneumococcal meningitis
Male	,,	25	Pericarditis
Male	,,	4	Gangrene of mouth
Male	,,	30	Meningioma
Female	,,	25	Cirrhosis of liver

Pneumococcal meningitis was one of the most killing diseases during this period. Sulphonamides (and penicillin intra-thecally) had very little effect on most cases. Intra-thecal streptomycin was preferable.

Tuberculosis

Three European cases of pulmonary tuberculosis were admitted to the European Hospital, Zomba. One female had a haemoptysis following thoracoplasty done in Dublin nine years previously. She was sent back to Ireland. One female had bilaterial infiltration with a very large cavity in one apex. She was sent to Scotland for treatment. The male patient was a laboratory technician who examined his own sputum and found it to contain tubercle bacilli. He had a cavity in one lung with infiltration apparently confined to the same side, though the other apex had a suspicious shadow. He responded well to collapse therapy and was able to resume duty six months later, while still attending for refills.

There were 40 African and four Indian cases of tuberculosis during nine months. Of these, five were children, 27 were adult males and 12 adult females. Two cases were non-pulmonary *i.e.* pericarditis and pleurisy with effusion. Eighteen cases were from Zomba, six from Domasi and four from Fort Johnston. The remainder came from places as far away as Mzimba, Beira and Port Herald. Twenty-three were " open " or infectious cases. In taking the histories of these cases there was a high incidence of deaths which might well have been due to tuberculosis. In several instances a mother admitted that all her children had died—the number of dead children varying from one to six. Sixteen cases were extremely advanced and no effective treatment could be carried out. There was a high proportion of cases among the " educated " classes, *e.g.* clerks and school teachers—about half the admissions were of better class patients. One disturbing feature was the occurrence of tuberculosis in market vendors, cooks and house-boys.

Wherever possible collapse therapy was instituted. By the end of the year one policeman, one Public Works Department driver and one scavenger were discharged and returned to duty. They are still reporting for refills of their artificial pneumothoraces every fourteen days. Fluoroscopy was used very extensively to control A.P. work and to note progress in all cases. Betewen 200 and 300 fluoroscopies were carried out in nine months. This resulted in a great saving of X-ray films.

Treatment Room

The provision of a treatment room in the African Hospital was of tremendous assistance. Ophthalmoscopy and laryngoscopy were carried out in the dark room attached. Sternal punctures and lumbar punctures were done in the treatment room itself as well as all procedures, *e.g.* proctoscopy requiring privacy.

Sigmoidoscopy: Surprisingly few African patients complained of severe irregularity of the bowels. All cases who did so were submitted to sigmoidoscopy.

Sigmoidoscopy was carried out on 21 patients—12 African and nine European. In the Africans four showed typical appearances of S. mansoni infection and three were simple enteritis. In five Africans no abnormality of the bowel other than hyperaemia with excess of mucus was noted

In the nine Europeans, one showed appearances resembling B. mansoni infection, but this was not confirmed by stool examinations. Five cases showed shallow ulceration with oedema and hyperaemia of the mucus membrane. These were all cases of mild bacillary dysentery or enteritis. One patient had an atrophic mucous membrane and two others had nothing abnormal. No typical appearances of amoebic dysentery were seen in any case, nor was evidence of this disease found in swabs taken at the time of examination and examined in the pathological department.

RESEARCH

Malaria. Very little is known about malaria in Nyasaland. Many cases are still treated before a positive blood slide is obtained. It has not been the custom to ascertain whether a particular infection is due to *P. falciparum*, *P. vivax* or *P. malarial*. During August, 1951, blood films were taken from 30 hospital personnel—cooks, ward servants, etc. All films were negative except one which showed a *P. falciparum* infection. No definite conclusion can be made from this small experiment, but it suggests that Zomba African Hospital is not a hyperendemic area.

Tuberculosis: Tuberculin testing was carried out on 111 volunteers from among the staff of the African Hospital. 1 : 4,000 tuberculin (0.1 ml.) was injected intra-dermally in the left forearm. Results were read at the end of 48 hours. 44 per cent. were negative, but among the positive reactors there were 11 who showed severe reactions with vesiculation. All negative reactors were screened radiographically and no evidence of pulmonary tuberculosis was found in any of them.

All negative reactors were then given 0.1 ml. of 1.100 tuberculin. Sixteen persons (*i.e.* 14 per cent.) still remained negative, and it is hoped to give these individuals B.C.G. when it becomes available. It is interesting to note that eleven of the persistently negative reactors were first year nurses or trainees.

J. W. D. GOODALL, M.D., F.R.C.P.
Medical Specialist

MENTAL HOSPITAL, ZOMBA

PART I

The history of the Central Lunatic Asylum before the year, 1913, is not documented in any records held at the old Asylum. Lists of the names of patients show some who were admitted in 1907 and 1908, but proper individual administrative records of non-criminal patients do not appear to have been started until 1919 when there were 30 male patients and one female patient. The latter is described in the Visitors' Book as leading a lonely existence with only the companionship of a wardress. 21 of these patients were " Criminal Lunatics ". Food for the patients was cooked in the Central Prison and carried fully half a mile to the Asylum. Sick patients were attended to in the cells.

2. The staff consisted of one sergeant, one corporal, one lance-corporal, eleven privates and two wardresses.

3. It is clear that the Asylum was looked upon as a place to house the criminal insane. In the Visitors' Book, there is a copy of an instruction from Government to the effect that guilty but insane persons were not to be considered for discharge until ten years after their admission. The Asylum was, in fact, an annexe to the Central Prison and had a penal atmosphere. The Superintendent of the Central Prison was Superintendent of the Mental Lunatic Asylum. The Medical Officer of the K.A.R. Cantonment, of the Central Prison, and of the African Hospital, Zomba, paid a regular weekly visit to the Asylum and answered any urgent sick calls.

4. Under the able superintendentship of Mr. John Archer, considerable extensions and improvements were made to the buildings in the years 1920 to 1932, the most important being the provision of a separate block for female patients and a hospital block. By 1932, what had been aimed at had been achieved and the Governor wrote in the Visitors' Book on 7–4–1932: " I inspected the Asylum today. The extensions and improvements which had been made to the buildings since my last visit on February 20th, 1930, are excellent and, when accommodation for Europeans and Asiatics (not an urgent matter, but nevertheless desirable) has been provided, little will remain to be done ". It was even possible for the Chief Secretary to write in 1931: " The Asylum is far superior to anything I have seen in Nigeria ". It can be deduced from the above that the patients were well housed, well fed and properly sanitated.

5. The first note of dissatisfaction was voiced in 1936 by the Director of Medical Services who wrote in the Visitors' Book: " Visited Asylum with Chief Secretary. The buildings were clean and tidy and the sanitary arrangements were satisfactory. The institution, however, leaves much to be desired as a mental hospital. The inmates are confined in cells with the exception of one small association ward holding some six persons. Many of the inmates (some twenty persons) were walking or sitting about with manacles round their ankles and wrists. Two were noisy and violent and confined to their cells . . . A Medical Officer visits the Asylum once a week and a Sub-Assistant Surgeon more frequently. I am of the opinion that the Asylum should be under the administration of the Medical Department with a trained male and female mental nurse or nurses in sub-charge."

6. In 1938, the Acting Chief Justice writes: " I agree that asylums should fall within the jurisdiction of the D.M.S."

7. In 1943, the Annexe to the Asylum was built. In it the well-behaved and trusted patients were housed. During the day they were free to go about and do their work without being guarded and were able to make some money by the sale of their garden produce. Significantly, the patients themselves refer to the Annexe as the '*Mudzi*' (Village).

8. Finally, on 18th March, 1949, the Governor made the following entry in the Visitors' Book: " This is a prison, not a lunatic asylum. I hope it will be possible to rebuild at an early date ". The hope materialized and building started in 1950. In 1951, a full time Medical Officer and a Hospital Assistant were posted to the Asylum. A European member of the Prisions Department was seconded to assist the Medical Officer.

Staff

9. In the past, illiterate attendants were recruited from amongst the older warders of the Central Prison, with the result that, on 1st June, 1951, 17 out of the 24 illiterate attendants were aged 50 years and over. Two were actually over 60 years of age. Men of such ages could not help but be afraid of disturbed and refractory patients half their years. At the first sign of trouble, and trouble was frequent, the nearest attendant blew a whistle, other attendants converged on the patient, overpowered him and heaved him into a cell where he was left to his own devices. The attendants could then sit down and relax until the next whistle blew. A new regime with patient persuasion as the method of dealing with difficult patients was more than these old attendants could stand. The two oldest attendants were retired, but nine others retired voluntarily. They have been replaced by selected ex-K.A.R. N.C.O.s between the ages of 25 and 40. These new men are learning to deal with patients as sick individuals who can usually be humoured into doing what is wanted of them. Whistles now blow twice or thrice a month only.

10. Some years ago, 12 literate attendants were employed. Without any medical training, they have not proved a success. However, they are being given the opportunity of attending the medical aides' course of instruction at the Zomba African Hospital Training School, and the more intelligent of them are taking an increased interest in their work.

11. The female attendants are a very poor lot and it is not always easy to distinguish the sane from the insane when a female attendant loses her temper. Difficulty is being experienced in recruiting suitable women for work as female attendants.

Buildings

12. *Old Asylum.* The following improvments were carried out at the old Asylum during the year, 1951:—

(i) An incinerator was built by patients.

(ii) A concrete washing place connected with a soakage pit was built by patients to provide proper facilities for the cleaning of night soil buckets after they had been emptied.

(iii) The walls of four cells were finished in concrete by the Public Works Department. Until recently, patients who felt like demolishing their cells at night have had an easy task as the walls had a *dambo* sand plaster and the bricks below were set in mud. In the past, two patients were employed full time in repairs to cells smashed up by patients.

(iv) Some new brick drains were made and others repaired by patients.

New Mental Hospital

13. By the end of April, the following buildings had been completed:—

(i) The administrative block.

(ii) The receiving block.

(iii) The dispensary, theatre, laboratory, dispensary and a main store.

(iv) The kitchen.

(v) The boiler house.

(vi) The laundry.

(vii) The Annexe buildings were converted into wards for male and female sick.

(viii) Four blocks of the pavilion type for the reception of patients were completed.

The following premises were occupied:—

(i) The administrative block.

(ii) The first two pavilions were occupied by patients from the Annexe.

(iii) The two wards in the male sick bay were occupied by some quiet old patients.

14. The remaining two pavilions could not be occupied as no fencing had been provided for any of the yards of the new buildings. Thus, only trusted patients could be housed in the new wards and there were not enough of them to fill four pavilions. Kitchen, boiler-room and laundry equipment arrived but, as the buildings are not yet provided with light and power and water is not laid on, no use could be made of them.

Water Supplies

15. The greater improvement of the year has been the laying-on of a piped water supply. At the old Asylum, a stand pipe was placed in a strategic position in the main yard of the male block and, using a hose 120 ft. long, water is now carried to all the important points. Incidentally, the patients love being hosed down every day as they stand in the sun at their bath tubs. A stand pipe was provided outside the female block at the old Asylum and there is a stand pipe at the new mental hospital for the use of the patients there. An important aspect of having a piped water supply at both the old and the new hospitals is that the large gang of patients formerly employed as water carriers has been released for other work.

16. The consulting room at the old Asylum was wired late in the year to permit the use of the E.C.T. machine. Unfortunately, the voltage instead of being 230 varies between 165 and 200. A voltmeter has been incorporated in the circuit.

Sanitation

17. Mention has already been made of a new incinerator and a concrete washing stand. Six new pit latrines were provided in the staff lines and two double seater pit latrines were built for the use of patients at the new mental hospital, pending the introduction of water borne sanitation. The use of the hose at the old Asylum has eased the cleaning of drains, latrines and, when necessary, the cells. A gang of patients is employed permanently white-washing cells, etc.

18. Night soil is trenched.

PART II

19. The actual number of insane persons in the Protectorate is not known. Only those who commit crimes, wander away from their homes or become uncontrollable in the village, are admitted to the Mental Hospital. The inmates, therefore, do not provide a typical cross section of insanity as it occurs in the Protectorate.

20. The average age (estimated) of all patients on admission to the Mental Hospital was 34.9 years. In one-third of the cases (53) relatives did provide information on how long the patients had been insane before admission. The average date of onset of insanity in these patients was 6.9 years before admission. As the average of these 53 patients on admission was 35.2 years, the average age at the onset of insanity was 28.3 years.

21. The following table shows the age grouping of patients on admission:—

Age Group		*Number of Patients*
15–20	..	10
20–25	..	10
25–30	..	29
30–35	..	38
36–40	..	35
40–45	..	12
45–50	..	5
50–60	..	7
60–70	..	2
70–80	..	1
80–90	..	1

Allowing for the time lag between the age at the onset of insanity and the age on admission, the table shows clearly that insanity is a disease uncommon after 40 years of age.

22. Only 16 of the 150 patients were female. If it could be assumed that insane females are just as liable to be antisocial as insane males and, consequently, just as likely to reach the Mental Hospital, then insanity amongst females throughout the country is very much less than amongst males. The behaviour of these 16 females certainly suggests that the assumption is a safe one. As the Nyasaland women are, for all practical purposes, uneducated and seldom move from their homes, they are not subjected to the same stresses as the men, and so possibly psychotic breakdown is less frequent.

23. Amongst the females, it is significant that in two cases childbirth appears to have been the precipitating cause of their insanity. In another recent case, that of a young woman aged 18, the precipitating cause appears to have been a love affair in which the parents did not approve of the daughter's choice and wished the girl to marry another man she did not love.

24. To set out in the form of percentages the types of insanity seen in the Mental Hospital at the present time would be misleading, as many of the older patients are secondarily demented and their records provide insufficient data to attempt a diagnosis. It is clear, however, that the proportions for the various types differ greatly from European figures. Senile and arterio-sclerotic cases are an important group in mental hospitals at home, but here there is only one senile dementia and not a single arterio-sclerotic case. Again, the involutional melancholic and the manic depressive groups are major ones amongst Europeans, but both are uncommon amongst Africans.

25. The major group into which the patients fall is the Schizophrenic and, a long way after it, the Epileptic group comes second. Of the last fifty admissions, 68 per cent. were schizophrenic and 12 per cent. epileptic. Only four per cent. were manic depressive.

26. The above findings conform to figures for South Africa published by Laubscher who remarks on the rareness of manic-depressive insanity and the preponderance of the triad schizophrenia, epilepsy and feeble-mindedness. The latter is not important in the figures for this hospital, possibly because the feeble-minded are looked after at home.

Treatment

27. In the past sedatives, hypnotics and the more powerful alkaloids were prescribed only when the Medical Officer was called in specially to treat a frenzied patient. There was therefore a clear field for the use of drugs, although, there being only two members of the subordinate staff with any medical or nursing training, it was impossible to push sedation to the stage of narcosis.

28. Noise was the worst feature of the old Asylum. At night, the distrubed and refractory patients often aroused the semi-quiet patients to indulge in sympathetic shouting and door banging and then quiet patients, becoming angry at the noise, joined in the fun. During the day, tempers were on edge from loss of sleep and quarrels and free fights developed in the yard and the attendants' whistles for help sounded frequently. The use of sedatives and hypnotics had an excellent effect upon patients. Because they slept better, tempers improved and fighting lessened; attendants, as their charges grew quieter and more amenable to the routine of the hospital, modified their tough outlook and became more humane and kindly. The inherently cheerful, sunny temper of the African reasserted itself and a friendly, hopeful atmosphere was created. Gratitude for a good night's sleep was freely expressed. Two cases in particular stand out. Both were long-standing manic cases who just could not quieten down to normal. They were always in hot water for sympathetic noisiness at night and for quarrels and occasional fights during the day. Their gratitude for their first solid night's sleep for years was exuberant. Both rapidly quietened down to sanity.

29. Despite other improvements in treatment still to be mentioned, it was undoubtedly the use of such common drugs as phenobarbitone and paraldehyde which broke down the idea that the asylum was a prison and made patients (and attendants) realize that they were in a hospital where something could be done for the insane. It would appear that the sudden and simultaneous sedation of a large group of noisy patients produced an immediate calm which had something uncanny about it for the patients and the staff. The spectacular effect was completely unintentional. The Medical Officer on arrival simply went to Medical Stores to see what he could get in the way of hypnotics. He came back with a good supply and promptly prescribed them that day. Next morning, he was as agreeably surprised as his patients, although he tried not to show it.

30. As has been mentioned, most patients have been insane in the villages for years before admission and they are admitted usually because an acute phase of their insanity has supervened. As a result, they commonly arrive in an under-nourished or even an emaciated condition. When also it is remembered that the attendants have no medical training and fail to see or rather to register and report upon such simple facts as whether or not a patient eats all his food or has it stolen from him, it is not to be wondered at that malnutrition is frequent and oft recurring amongst the inmates. Even monthly or weekly weighing of the patients conveys little of value unless the patient is 100 per cent. fit and healthy before the weighings start. The only satisfactory way to prevent malnutrition in a hospital such as this is to see all the patients daily.

31. One good thing, however, about the insane African is that no matter how much he may misbehave about food, he never actually gets to the stage of refusing it entirely. Nasal feeding is, therefore, unknown. As his normal diet is rather a monotonous one, there is seldom any trouble in persuading the African who is refusing food to take extras, like tea milk and sugar, gruel milk and sugar, gravies fortified with dried yeast, rice, extra groundnuts, etc. Again, fish and particularly meat exert a powerful attraction on Africans. In passing, it is worth noting that there is an undercurrent of excitement in the hospital on the two days of the week on which meat is issued.

32. In the absence of a full time Medical Officer, it is therefore not surprising that, on taking over, upwards of thirty patients were suffering from malnutrition with obvious signs of deficiencies in vitamins ' A ' and ' B '. In the case of vitamin ' A ', dryness of the skin going on to crinkling occurred, and folliculitis was common even to the stage where the spinous plugs of keratotic material projected from the hypertrophied follicles, particularly of the nose and cheeks. In the case of vitamin ' B ' complex, four cases of pellagra were seen. While the skin manifestations were very well marked, none of the cases were suffering from diarrhoea and the tongue manifestations were not marked. They responded rapidly to nicotinic acid. Other vitamin ' B ' complex deficiencies occurred as evidenced by cheilosis, angular stomatitis and chronic seborrhoeic eczema of the scrotum. No cases of beri-beri have been seen. Combinations of ' A ' and ' B ' deficiencies were extremely common and a moderate degree of hypochromic anaemia was frequent amongst these patients. The standard daily treatment given to every undernourished patient was cod liver oil ½ oz., dried yeast ½ oz., iron sulphate, grs. six daily. Anyone who required more of one of the above for his particular complaint was given double or treble the doses shown. Nicotinic acid and riboflavin were given to patients whose clinical condition merited them. The effect of this treatment was marked physically as the exhibition of drugs was mentally. The skin grew supple, the hair darkened and became crisper, lips and tongues healed and appetite returned. Two thin, apathetic, withdrawn and practically mute young schizophrenics rapidly improved mentally as their physical condition improved and became normal again. Their weights rose from 105 and 115 lbs. to 149 and 154 lbs. respectively. Every case showed an improvement in physical activity, some by taking to work for the first time and others, the worst cases, by developing sufficient energy to defend their food and their possessions and even to take to evil doing themselves. During the year, the average weight of all patients rose from 120.4 lbs. to 126.60 lbs., 121 patients gaining weight and 37 patients losing weight. There were three deaths compared with 21 in 1950 and 25 in 1949.

Occupational Therapy

33. Formerly, with no water laid on to the hospital, the main occupation of the fit inmates was carrying the large quantities of water required for cleaning, ablution and cooking purposes from the nearest K.A.R. water point to the old asylum, the female block and the annexe. When this task was completed, those patients who could be trusted were allowed to hoe gardens of their own and sell their produce. In April, 1951, coincident with the improving physical and mental health of the patients, a system of payment for work done was instituted. Payment was graded according to the class of work and how well it was done, but no attempt was made to pay standard wages. Bricklaying was the most highly paid work at 5d per seven hours' work, and sweeping was the lowest paid at 1d for seven hours. The bulk of payments was at 1d and 2d and, as few patients worked continuously, the average wage was never high. The principle adopted was that any attempt to work was paid for even if the reward was only one tailor-made cigarette costing an eighth of a penny. By September, over 70 patients were working sufficiently well to receive money payments amounting in all to about £8–16s–0d per mensem.

34. As the bulk of the patients could not be allowed to handle cash or leave the hospital to make their own purchases in the stores, arrangements were made with an Indian Trader for the hospital to display a priced selection of his goods. Each patient was allowed to purchase goods up to the value of 2s. Any patient who had earned more than 2s during the month had to bank the excess until he had £1 to his credit. Thereafter he could spend what he earned. The idea of making the patient bank earnings in excess of 2s until he had £1 was that, in the past, patients on discharge usually proceeded home in a destitute condition. Now, as they improve mentally, they are usually banking money and no one goes home without something in his pocket. The main purchases are soap (scented), sugar and tobacco. Much can be learned about the state of mind of the patients and their intellectual capacity by listening to their complaints about pay and watching them select their purchases and attempt to work out what they have spent.

35. During the year, most of the workers have been engaged on improving the grounds round the new hospital site by bunding, grass and tree planting and weeding. A beginning has been made in establishing an orchard. Basket making and sisal rug making were introduced and as sisal is grown in the hospital grounds and bamboos can be procured from the Central Prison, materials cost nothing. Some of the female patients made useful sleeping mats of banana leaves.

36. Another new departure for the patients was that of going out for escorted walks. Many non-working patients had not seen the outside world for years. Brick walls and baked earth had been their view since admission and when the time came to go for their first walk, some refused. At week-ends, the younger and stronger patients are taken for longer walks which are usually joyful affairs for the patients and for people they meet on the way, but not always for the attendants. Football is another recreation which is liked by the younger patients who play and by some of the older ones who spectate.

37. The wireless and the gramophone proved slightly disappointing from the point of view of their becoming a source of general entertainment. The educated patients and those who have spent much time abroad in Southern Rhodesia and South Africa are the regular patrons. Occasionally, an acute mental case will caper to a catchy dance tune, but generally, those whose mental condition is acute or sub-acute take only a fleeting interest in the wireless or the gramophone.

Electro-convulsive Therapy

38. At the beginning of October, a power line was led into the small combined office-cum-consulting room at the old asylum so that a start could be made with electro-convulsive therapy, pending the completion of the new buildings and the transfer of the patients. The melancholic patient, particularly the involutional is the one which responds best to convulsive treatment, but as has been mentioned, such cases occur rarely amongst the Bantu. Most of the patients admitted are schizophrenics in an acute phase and suitable for insulin coma treatment rather than E.C.T. As the African is conservative and liable to damn anything new out of hand, a cautious approach to convulsive treatment was indicated. A start was made with five cases of schizophrenia showing apparent depressive symptoms. Good effects were obtained in two cases, while three cases showed no change. In other words, three of the cases had probably no true depression, but only the appearance of it due to blunting of normal affectivity. Two cases with marked symptoms of confusion were treated with a good immediate effect and one of them with a lasting effect. Two withdrawn schizophrenics of good physique who looked as if they ought to be working were treated. They became very stimulated, excited and delusional after the second treatment. Both quietened down again and took to work: one, however, stopped working after a month. If, so far, no spectacular results can be recorded, the indications are that electro-convulsive therapy has very definite uses even amongst these schizophrenics. The number of convulsions given to each patient were few. If after three convulsions, no change occurred, treatment was not continued. The interval between treatments was usually one week and the total number of convulsions given varied from two to six.

W. H. Watson, M.D.
Medical Officer in Charge

SUMMARY

Mental Hospital, Zomba

NUMBER OF PATIENTS ADMITTED INTO HOSPITAL WARD DURING THE YEAR

Male	*Female*	*Total*	*Daily Average during the year*
94	20	114	4.72

NUMBER OF DEATHS DURING THE YEAR, 1951

Male	*Female*	*Total*
3	Nil	3

CAUSES OF DEATHS

Heart failure	1
Tuberculosis of lungs	1
Senility	1

NUMBER OF PATIENTS TREATED AS OUT—PATIENTS

Male	*Female*	*Total*
1,780	142	1,922

NUMBER OF AFRICAN PATIENTS DISCHARGED CURED OR HANDED OVER TO RELATIVES

Male	*Female*	*Total*
12	2	14

NUMBER OF ASIAN PATIENTS DISCHARGED CURED

Male	*Female*	*Total*
1	—	1

NUMBER OF AFRICAN PATIENTS ADMITTED DURING 1951

Male	*Female*	*Total*
34	5	39

NUMBER OF ASIAN PATIENTS ADMITTED DURING 1951

Male	*Female*	*Total*
1	—	1

TABLE I

VACCINATION AND SMALLPOX CASES, 1951

Medical District	Primary	Accelerated	Immediate	Not seen again	Total	SMALLPOX Cases	SMALLPOX Deaths
NORTHERN PROVINCE							
Karonga	8,801	—	2,780	7,519	19,100	—	—
Mzimba	1,226	1,405	1,451	4,796	8,878	1	—
Chinteche	2,270	858	270	151	3,549	—	—
TOTAL NORTHERN PROVINCE	12,297	2,263	4,501	12,466	31,527	1	—
CENTRAL PROVINCE							
Kasungu	10,181	5,572	4,128	12,465	32,346	13	—
Kota Kota	—	—	—	—	—	—	—
Fort Manning	1,782	1,631	2,368	4,809	10,590	—	—
Dowa	4,173	9,935	584	1,119	15,811	—	—
Lilongwe	5,392	3,867	4,146	3,540	16,945	—	—
Dedza	6,849	—	1,109	2,163	10,123	—	—
Ncheu	104	272	466	9,181	10,023	—	—
TOTAL CENTRAL PROVINCE	28,481	21,277	12,801	33,279	95,838	13	—
SOUTHERN PROVINCE							
Fort Johnston	4,561	3,240	1,602	1,607	11,010	—	—
Liwonde	9,045	—	1,877	19,169	30,091	—	—
Zomba European Hospital	29	140	—	—	169	—	—
Zomba African Hospital	—	—	—	132	132	—	—
Blantyre Health Inspector	—	—	—	1,720	1,720	—	—
Chiradzulu	334	287	299	213	1,133	3	1
Blantyre European Hospital	—	—	—	415	415	—	—
Blantyre African Hospital (Asians only)	315	—	36	50	401	—	—
Cholo	7,859	5,509	3,440	18,915	35,723	33	5
Mlanje	20,226	11,000	166	1,370	32,762	72	9
Chikwawa	7,801	4,716	1,895	3,434	17,846	—	—
Port Herald	914	3,268	1,322	2,347	7,851	—	—
TOTAL SOUTHERN PROVINCE	51,084	28,160	10,637	49,372	139,253	108	15
TOTAL PROTECTORATE	91,862	51,700	27,939	95,117	266,618	122	15

Table IXa. Return of Diseases and Deaths (European in-patients) for the year 1951

Diseases	Remaining at the end of 1950	Admissions during 1951	Total cases treated	Deaths	Remaining at the end of 1951
1–44. *Infectious and parasitic diseases.*					
1. *(a)* Typhoid fever	—	2	2	—	—
(b) Paratyphoid fever	1	1	2	—	—
(c) Type undefined	—	1	1	—	—
3. Typhus fever (tick)	—	1	1	—	—
4. Relapsing fever	—	6	6	—	—
7. Measles	—	1	1	—	—
8. Scarlet fever	—	1	1	—	1
9. Whooping cough	—	1	1	1	—
10. Diphtheria	—	1	1	—	—
11. Influenza	—	4	4	—	—
13. Dysentery					
(*a*) Amoebic	1	20	21	—	—
(*b*) Bacillary	—	10	10	—	1
(*c*) Unclassified	—	11	11	—	—
16. Acute Poliomyelitis	1	2	3	—	—
18. Cerebro-spinal fever	—	4	4	—	—
23. Tuberculosis of the respiratory system	—	7	7	—	—
24–32. Other tuberculosis diseases ...	—	2	2	—	1
34–35. Venereal Diseases :—					—
(a) Syphilis	—	3	3	—	
38. Malaria :—					—
(a) Benign Tertian	—	10	10	—	—
(b) Subtertian	—	41	41	—	—
(d) Unclassified	1	117	118	—	2
44–6a. Blackwater fever	—	1	1		
41–42. Other helminthic diseases ...	—	4	4		
15, 19, 20, Other infectious and/or parasitic					
36, 43, 44. diseases	—	14	14		
45–55. *Cancer and other tumours.*					
(*a*) Malignant	—	5	5	2	—
(*b*) Non-malignant	—	10	10	—	—
56–69. *Rheumatism, Diseases of Nutrition and Endocrine glands and other diseases.*					
56–57. Rheumatic conditions	—	8	8	—	—
59 Diabetes	—	3	3	—	—
58–63, Other diseases :					
64. *(a)* Nutritional	—	1	1	—	—
65–69. (*b*) Endocrine glands and general	—	3	3	—	—
70–74. *Diseases of the blood and blood-forming organs*	—	3	3	—	—
75–77. *Acute and Chronic Poisoning* ...	—	2	2	—	1
78–89. *Diseases of the Nervous System and Sense Organs.*				—	—
82. Cerebral haemorrhage	—	2	2	—	—
78–81, Other diseases of the nervous					
83–87. system	—	9	9	—	
88. Other diseases of the eye, and annexa	2	9	11	—	1
89. Diseases of the ear and mastoid sinus	—	12	12	—	—
				—	—
90–103. *Diseases of the Circulatory System.*				—	—
90–95. *(a)* Heart Diseases	—	11	11	2	—
96–103. *(b)* Other circulatory diseases ...	—	31	31	—	1
Carried forward	6	374	380	5	8

Table IXa. Return of Diseases and Deaths (European in-patients) for the year 1951

Diseases	Remaining at the end of 1950	Admissions during 1951	Total cases treated	Deaths	Remaining at the end of 1951
Brought forward	6	374	380	5	8
104–114. *Diseases of the Respiratory System.*					
106. Bronchitis	1	23	24	—	—
107. *(a)* Broncho-pneumonia ...	—	4	4	—	—
(b) Lobar pneumonia	1	5	6	—	—
(c) Otherwise defined	—	1	1	—	1
104–105, 110–114. Other diseases of the Respiratory System	1	27	28	—	—
115–129. *Diseases of the Digestive System.*					
119–120. Diarrhoea and enteritis :—					
(a) Under 2 years of age ...	—	9	9	—	—
(b) Over 2 years of age ...	1	41	49	—	1
121. Appendicitis	2	27	29	—	1
122. Hernia, intestinal obstruction ...	—				
125–127. Other diseases of the liver and billary passage	1	5	6	—	—
115–118, 123–128, 129. Other diseases of the Digestive System	—	125	125	—	1
130–139. *Non-Venereal diseases of the Genito-Urinary System.*					
130–132. Nephritis (all forms)—					
(b) Chronic	—	1	1	—	—
133–139. Other non-venereal diseases of the Genito-Urinary system ...	1	55	56	—	—
140–150. *Diseases of Pregnancy, Child-birth and the puerperal state.*					
140–142. *(a)* Abortion	—	16	16	—	—
(b) Ectopic gestation	—	3	3	—	—
145–147. *(c)* Toxaemias of pregnancy ...	—	4	4	—	—
149, 158. 150. Other conditions of the puerperal state	5	128	133	—	5
151–156. *Diseases of the Skin, Cellular Tissues, Bones and Organs of Locomotion*	2	87	89	—	1
157–161. *Congenital Malformations and diseases of early infancy.* ...	—	2	2	—	—
159. Premature birth	—	1	1	—	—
163–198. *External Causes.*					
172–198. Other forms of violence ...	2	70	70	—	2
199–200. Ill-defined diseases	1	87	88	2	—
TOTALS ...	24	1,099	1,123	7	20

Table IXb. Return of Diseases and Deaths (Native In-patients) for the year 1951 (including Asiatics, Native officials, K.A.R. Native Ranks, Native General Population, Asiatic and Native Convicts)

	Diseases	Remaining at the end of 1950	Admissions during 1951	Total Cases treated	Deaths	Remaining at the end of 1951
1–44	*Infectious and Parasitic diseases*					
1	(*a*) Typhoid fever	1	25	26	1	—
2	(*b*) Paratyphoid fever	2	1	3	—	1
	(*c*) Type undefined	—	1	1	—	—
4	Relapsing fever	11	253	264	5	3
6	Smallpox	—	1	1	—	—
7	Measles	14	293	307	—	5
9	Whooping-cough	9	391	400	11	27
10	Diphtheria	—	7	7	2	—
11	Influenza	—	22	22	—	—
13	*Dysentery*—					
	(*a*) Amoebic	7	90	97	3	2
	(*b*) Bacillary	2	65	67	1	1
	(*c*) Unclassified	2	23	25	2	—
16	Acute poliomyelitis	—	5	5	—	—
18	Cerebro-spinal fever	1	36	37	16	1
22	Tetanus	—	8	8	6	—
23	Tuberculosis of the respiratory system	12	220	232	20	23
24–32	Other tuberculous diseases ..	9	104	113	11	10
33	Leprosy	3	67	70	—	2
34–35	*Venereal Diseases*—					
	(*a*) Syphilis	66	1,225	1,291	12	47
	(*b*) Gonorrhoea	10	621	631	—	8
	(*c*) Other venereal diseases ..	—	21	21	—	—
38	*Malaria*—					
	(*a*) Benign tertian	—	122	122	4	4
	(*b*) Subtertian	37	1,814	1,851	50	36
	(*c*) Quartan	—	2	2	—	—
	(*d*) Cachexia	—	61	61	3	1
	(*e*) Unclassified	38	2,562	2,600	23	61
44–6a	Blackwater fever	—	1	1	—	—
39	Yaws	2	118	120	1	3
40	Ankylostomiasis	74	1,949	2,023	9	53
42	Schistosomiasis	23	1,055	1,078	6	53
41–42	Other helminthic diseases ..	5	159	164	—	1
15, 19, 20 36, 43, 44	Other infectious and/or parasitic diseases	1	246	247	2	1
45–55	*Cancer and other tumours*					
	(*a*) Malignant	5	119	124	24	7
	(*b*) Non-malignant	7	167	174	2	9
	(*c*) Undetermined	2	14	16	—	—
56–69	*Rheumatism, diseases of nutrition and Endocrine glands and other general diseases*—					
56–57	Rheumatic conditions	1	381	382	1	9
59	Diabetes	—	5	5	2	1
60	Scurvy	—	1	1	—	—
61	Beriberi	1	8	9	1	—
62	Pellagra	2	24	26	2	—
58, 63, 64	*Other diseases*—					
	(*a*) Nutritional	3	3	6	1	—
65–69	Endocrine glands and general ..	—	52	52	9	—
70–74	*Diseases of the Blood and blood-forming organs*	12	144	156	11	14
75–77	*Acute and chronic poisoning* ..	—	5	5	1	—
78–89	*Diseases of the nervous system and Sense organs*—					
82	Cerebral haemorrhage	5	6	11	3	4
78–81 83–87	Other diseases of the nervous system	8	315	323	21	9
88	(*a*) Trachoma	1	12	13	—	2
	(*b*) Other diseases of the eye and annexa	29	1,117	1,146	—	36
	Carried forward	405	13,941	14,346	266	434

Table IXb. Return of Diseases and Deaths (Native In-patients) for the year 1951 (including Asiatics, Native officials, K.A.R. Native Ranks, Native General Population, Asiatic and Native Convicts)

	Diseases	Remaining at the end of 1950	Admissions during 1951	Total Cases treated	Deaths	Remaining at the end of 1951
	Brought forward	405	13,941	14,346	266	434
89	Diseases of the ear and mastoid sinus	2	112	114	1	1
90–103	*Diseases of the circulatory system*—					
	(*a*) Heart diseases	1	76	77	25	3
	(*b*) Other circulatory diseases ..	2	125	127	9	4
104–114	*Diseases of the respiratory system*—					
106	Bronchitis	8	875	883	4	11
107–109	*Pneumonia*—					
	(*a*) Broncho-pneumonia ..	9	410	419	61	9
	(*b*) Lobar-pneumonia ..	5	661	666	33	8
	(*c*) Otherwise defined ..	1	289	290	7	5
104–105 110–114	Other diseases of the respiratory system	14	301	315	7	5
115–129	*Diseases of the digestive system*—					
119–120	*Diarrhoea and enteritis*—					
	(*a*) Under 2 years of age ..	—	131	131	7	3
	(*b*) Over 2 years of age ..	1	160	161	4	4
121	Appendicitis	2	17	19	1	—
122	Hernia, intestinal obstruction ..	6	194	200	11	5
124	Cirrhosis of the liver	1	20	21	10	2
125–127	Other diseases of the liver and biliary passage	2	78	80	5	3
115–118 123–128 129	Other diseases of the digestive system	10	794	804	22	9
130–139	*Non-venereal diseases of the genito-urinary system*—					
103–132	*Nephritis (all forms)*—					
	(*a*) Acute	1	18	19	2	1
	(*b*) Chronic	1	19	20	—	2
	(*c*) Not stated to be acute or chronic	1	19	20	3	—
133–139	Other non-venereal diseases of the genito-urinary system ..	18	791	809	16	29
140–150	*Diseases of pregnancy, Child-birth and the pueperal state*—					
140–141	(*a*) Abortion	3	193	196	5	2
142	(*b*) Ectopic gestation	—	3	3	—	—
145–147	(*c*) Toxaemias of pregnancy ..	1	44	45	4	—
143, 144, 158, 149, 150	(*d*) Other conditions of the puerperal state	26	2,237	2,263	47	40
151–156	*Diseases of the skin, cellular tissue, bones and organs of locomotion*	169	3,432	3,601	19	160
157–161	*Congenital malformations and diseases of early infancy*	1	25	26	1	2
158	(*a*) Congenital debility (children under one year) ..	—	15	15	4	—
159	(*b*) Premature birth (do) ..	1	21	22	3	—
160	(*c*) Injury at birth (do) ..	—	1	1	1	—
162	*Senility*	—	15	15	3	1
163–198	*External Causes*—					
163–171	(*a*) Suicide	—	2	2	2	—
172–198	(*b*) Other forms of violence ..	161	3,696	3,857	79	172
199–200	*Ill-defined*	43	1,403	1,446	29	66
	TOTALS ..	895	30,118	31,013	691	981

Table Xa. Return of Diseases (European Out-patients) for the year 1951

Diseases	Males	Females
1–44. *Infectious and parasitic Diseases.*		
1–2. Enteric Group :—		
1. (*a*) Typhoid Fever ...	1	—
2. (*b*) Paratyphoid ...	2	—
3. Typhus fever ...	1	—
4. Relapsing Fever ...	10	—
7. Measles	2	4
8. Scarlet fever ...	1	—
9. Whooping cough ...	4	4
10. Diphtheria	2	4
11. Influenza	9	6
13. Dysentery—		
(*a*) Amoebic	17	10
(*b*) Bacillary	17	9
(*c*) Unclassified ...	48	26
16. Acute poliomyelitis ...	—	2
18. Cerebrospinal fever ...	1	—
22. Tetanus ...	—	1
23. Tuberculosis of the Respiratory System	2	4
24–32. Other tuberculous diseases	—	1
33. Leprosy	—	—
34–35. Venereal Diseases :—		
(*a*) Syphilis	9	2
(*b*) Gonorrhea ...	7	1
(*c*) Other venereal diseases	2	1
38. Malaria.		
(*a*) Benign tertian ...	12	1
(*b*) Subtertian ...	40	13
(*c*) Cachexia	2	—
(*d*) Unclassified ...	134	54
44–6a. Blackwater fever ...	7	2
39. Ratbite fever ...	—	—
40. Ankylostomiasis ...	—	2
42. Schistosomiasis ...	3	—
41–42. Other Helminthic diseases	21	30
15, 19, 20, 36, 40, 43, 44. Other infectious and/or parasitic diseases	26	36
45–55. *Cancer and other Tumours.*		
(*a*) Malignant ...	3	2
(*b*) Non-malignant ...	15	12
(*c*) Undetermined ...	—	—
Carried forward ...	398	227

Diseases	Males	Females
Brought forward ...	398	227
56–69. *Rheumatism, diseases of Nutrition and Endocrine Glands and other general diseases.*		
56–57. Rheumatic conditions	31	29
59. Diabetes	2	2
60. Scurvy	—	—
62. Pellagra	—	—
65–69. Other diseases—		
(*b*) Endocrine glands and general	63	23
70–74. *Diseases of the Blood and Blood-forming Organs*	7	41
78–89. *Diseases of the Nervous System and Sense Organs.*		
82. Cerebral haemorrhage	2	—
78, 81, 83, 87. Other diseases of the Nervous System ...	13	23
88. Other diseases of the eye and annexa ...	51	39
89. Diseases of the ear and mastoid sinus ...	94	51
90–103. *Diseases of the Circulatory System.*		
90–95. (*a*) Heart diseases	12	7
96–103. (*b*) Other circulatory diseases ...	87	43
104–114. *Diseases of the Respiratory System.*		
106. Bronchitis	50	29
107–109. Pneumonia :—		
(*a*) Broncho-pneumonia	—	1
(*b*) Lobar pneumonia	5	2
104, 105 110–114. Other diseases of the Respiratory System ...	146	92
115–119. *Diseases of the Digestive System.*		
119–120. Diarrhoea and Enteritis :—		
(*a*) Under 2 years of age	18	27
(*b*) Over 2 years of age	123	70
Carried forward ...	802	706

Table Xa. Return of Diseases (European Out-patients) for the year 1951

	Diseases	*Males*	*Females*
	Brought forward ...	802	706
121.	Appendicitis ...	14	16
122.	Hernia, intestinal obstruction	7	—
124.	Cirrhosis of the liver ...	—	—
125–127.	Other diseases of the liver and billiary passage	2	5
115–118, 123, 128, 129.	Other diseases of the digestive system ...	313	190
130–139.	*Non-venereal Diseases of the Genito-urinary System.*		
130–132.	Nephritis (all forms):—		
130.	*(a)* Acute	—	2
	(b) Chronic ...	1	—
133–139.	Other non-venereal diseases of the Genito-urinary system ...	44	145
140–150.	*Diseases of Pregnancy, Childbirth and the Puerperal State.*		
140–141, 142.	(*a*) Abortion ...	—	14
145–147	(*c*) Toxaemias of pregnancy	—	3
	Carried forward ...	1,183	1,081

	Diseases	*Males*	*Females*
	Brought forward ...	1,183	1,081
143–144, 148, 150.	*(d)* Other conditions of the puerperal state ...	—	240
151–156.	*Diseases of the Skin, Cellular Tissues, Bones and Organs of Locomotion* ...	525	262
157–161.	*Congenital malformations and Diseases of Early Infancy.*		
161.	Other diseases peculiar to early infancy	3	2
162.	Senility — ...	—	—
163–198.	*External Causes.*		
172–198.	Other forms of violence	301	99
199–200.	*Ill-defined diseases*	322	272
	TOTAL	2,334	1,956

Table Xb. Return of Diseases (Native Out-patients) for the year 1951 (including Asiatics, Native Officials, K.A.R. Native Ranks and Native Convicts)

No.	Corresponding Number in International List. (1929) Revision	Diseases — Title	Males	Females
1 (*a*)	1	(*a*) Typhoid fever	18	6
1 (*b*)	2	(*b*) Paratyphoid fever	2	—
		(*c*) Type undefined	—	1
2	3	Typhus fever	—	—
3	4	Relapsing fever	369	151
4	5	Undulant fever	9	2
5	6	Smallpox	6	3
6	7	Measles	293	277
7	8	Scarlet fever	—	—
8	9	Whooping-cough	710	757
9	10	Diphtheria	3	4
10	11	Influenza	17	9
11	12	Cholera	—	—
12	13	*Dysentery—*		
	13a	(*a*) Amoebic	159	48
	13b	(*b*) Bacillary	47	11
		(*c*) Unclassified	193	54
13	14	*Plague—*		
	14a	(*a*) Bubonic	—	—
	14b	(*b*) Pneumonic	—	—
		(*c*) Septicaemic	—	—
14	16	Acute Poliomyelitis	5	—
15	17	Encephalitis lethargica	—	—
16	18	Cerebrospinal fever	28	8
17	21	Rabies	—	—
18	22	Tetanus	4	6
19	23	Tuberculosis of the respiratory system	180	78
20	24–32	Other tuberculous diseases	78	41
21	33	Leprosy	289	126
22	34–35	*Venereal Diseases—*		
		(*a*) Syphilis	4,323	3,089
	35	(*b*) Gonorrhoea	2,212	882
	35	(*c*) Other venereal diseases	16	12
23	37	Yellow fever	—	—
24	38	*Malaria—*		
		(*a*) Benign tertian	506	342
		(*b*) Subtertian	5,322	3,706
		(*c*) Quartan	3	2
		(*d*) Unclassified	15,767	9,271
25	44–6a	Blackwater fever	—	1
26	39	Kala-azar	—	—
27	39	Trypanosomiasis	1	—
28	39	Yaws	273	276
29	39	Other protozoal diseases	—	—
30	40	Ankylostomiasis	5,034	3,567
31	42	Schistosomiasis	7,477	2,606
32	41, 42	Other helminthic diseases	729	420
33	15, 19, 20 36, 43, 44	Other infectious and/or parasitic diseases	601	305
34	45–55	*Cancer and other tumours—*		
	45–53	(*a*) Malignant	66	63
	54	(*b*) Non-malignant	210	148
	55	(*c*) Undetermined	17	8
		Rheumatism, diseases of nutrition and endocrine glands and other general diseases—		
35	56–57	Rheumatic conditions	6,596	3,505
36	59	Diabetes	3	3
37	60	Scurvy	3	1
38	61	Beriberi	8	5
39	62	Pellagra	51	45
		Carried forward	51,627	29,639

Table Xb. Return of Diseases (Native Out-patients) for the year 1951 (including Asiatics, Native Officials, K.A.R. Native Ranks and Native Convicts)

No.	Corresponding Number in International List. (1929) Revision	Diseases — Title	Males	Females
		Brought forward	51,627 ..	29,639
40	58, 63, 64	*Other diseases—*		
		(*a*) Nutritional	38 ..	—
	65–69	(*b*) Endocrine glands and general	44 ..	58
41	70–74	Diseases of the blood and blood-forming organs ..	315 ..	223
42	75–77	Acute and chronic poisoning	4 ..	1
		Diseases of the nervous system and sense organs—		
43	82	Cerebral haemorrhage	74 ..	20
44	78–81, 83–87	Other diseases of the nervous system	1,373 ..	491
45	88	Trachoma	20 ..	24
46	88	Other diseases of the eye and annexa	13,446 ..	10,954
47	89	Diseases of the ear and mastoid sinus	5,795 ..	2,894
48	90–103	*Diseases of the circulatory system—*		
	90–95	(*a*) Heart diseases	96 ..	59
	96–103	(*b*) Other circulatory diseases	376 ..	135
	104–114	*Diseases of the respiratory system—*		
49	106	Bronchitis	17,314 ..	9,865
50	107–109	*Pneumonia—*		
	107	(*a*) Broncho-pneumonia	342 ..	332
		(*b*) Lobar-pneumonia	419 ..	220
		(*c*) Otherwise defined	319 ..	123
51	104–105, 110–114	Other diseases of the respiratory system ..	16,980 ..	7,742
	115–129	*Diseases of the digestive system—*		
52	119–120	*Diarrhoea and enteritis—*		
		(*a*) Under two years of age	1,951 ..	1,442
		(*b*) Over two years of age	2,151 ..	1,144
53	121	Appendicitis	12 ..	5
54	122	Hernia, intestinal obstruction	210 ..	4
55	124	Cirrhosis of the liver	15 ..	6
56	125–127	Other diseases of the liver and biliary passage ..	98 ..	42
57	115–118	Other diseases of the digestive		
	123, 128, 129	system	28,580 ..	14,571
	130–139	*Non-venereal diseases of the genito-urinary system—*		
58	130–132	Nephritis (all forms)—		
	130	(*a*) Acute	19 ..	5
	131	(*b*) Chronic	33 ..	17
59	133–139	Other non-venereal diseases of the genito-urinary		
		system	1,260 ..	953
60	140–150	*Diseases of pregnancy, child-birth and the puerperal state—*	— ..	291
	140, 141, 142	(*a*) Abortion	— ..	203
		(*b*) Ectopic gestation	— ..	14
	145–147	(*c*) Toxaemias of pregnancy	— ..	171
	143, 144, 158, 150	(*d*) Other conditions of the puerperal state..	— ..	2,058
61	151–156	*Diseases of the skin, cellular tissue, bones and organs of locomotion—*	53,181 ..	18,796
62	157–161	*Congenital malformations and diseases of early infancy—*		
	158	(*a*) Congenital debility (children under 1 year)	41 ..	31
	159	(*b*) Premature birth (children under 1 year) ..	2 ..	20
	160	(*c*) Injury at birth (children under 1 year) ..	3 ..	9
63	162	*Senility—*	42 ..	16
64	163–198	*External causes—*		
	163–171	(*a*) Suicide	1 ..	1
	172–198	(*b*) Other forms of violence	51,195 ..	12,541
65	199–200	Ill-defined	12,066 ..	4,796
		TOTALS ..	259,443 ..	120,098

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